Learning as Apprentices in the Contemporary UK Workplace: creating and managing expansive and restrictive participation

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ABSTRACT   *Situated learning theory provides a rich conceptual framework for analysing the processes by which apprentices become (full) participants in a community of practice. This article uses case study evidence from the UK's Modern Apprenticeship programme to show how this framework can be developed by identifying features of expansive and restrictive participation which help distinguish between different approaches to apprenticeship. We suggest that three inter-related themes (participation, personal development and institutional arrangements) underpin an expansive/restrictive continuum. The analysis is used to categorise company approaches to apprenticeship according to their expansive and restrictive characteristics, and to illustrate the variable learning opportunities that are being created for apprentices under the Modern Apprenticeship.*

Introduction

Lave and Wenger (1991) have provided a rich conceptual framework for analysing the process by which new entrants to an occupation, workplace or activity become 'old-timers'. Two ideas form the lynchpins of their theoretical account of the learning this process involves. Firstly, the notion of 'legitimate peripheral participation' is used to capture the insight that 'learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the socio-cultural practices of the community' (Lave & Wenger, 1991, p. 29). Secondly, Lave and Wenger have developed the concept of 'community of practice' to convey how people learn through mutual engagement in an activity which is defined by the negotiation of meanings both inside and outside the community: They argue 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' (Lave & Wenger, 1991, p. 98).

   Observation of craft apprenticeships in traditional societies—Yucatec midwives

(see Jordan, 1989) and Vai and Gola tailors—provided the initial empirical inspiration for the formulation of Lave and Wenger's perspective on learning, but they also found that the framework helped explain the transformation of 'novices' to 'experts' in diverse cultural, social and economic settings. Their examples included the induction and subsequent learning engaged in by people attending Alcoholics Anonymous, and others training to become 'naval quartermasters' (see Hutchins, 1993) or 'meat cutters' (see Marshall, 1972). More recently, Wenger (1998) has used the concepts of legitimate peripheral participation and community of practice to explain how new recruits to a claims processing department in a large insurance company become full participants. In analysing the social and pedagogical processes involved in the transition from the periphery to the mainstream, Lave and Wenger's intention has been to show how the relations of legitimate peripheral participation and communities of practice underpin apprentice learning and identity formation.

While recognising the relevance of the Lave and Wenger (1991) perspective to understanding what is involved in apprenticeship learning and, generically, when a 'newcomer' becomes an 'old-timer' in the practice of a shared activity, much of our work has focused more specifically on its application to the sort of contemporary apprenticeships offered in advanced industrial societies such as the UK (see Fuller & Unwin, 1998, 1999, 2001a, b). In this regard we suggest that the main shortcoming in Lave and Wenger's account of learning is that it does not include a role for formal education institutions in the newcomer's learning process. Indeed, the formal, off-the-job educational components referred to in the naval quartermasters' and butchers' case studies are seen either to add little to the process of learning via legitimate peripheral participation in a community of practice or, even, as having a detrimental effect:

> … the two quartermaster chiefs with whom I worked most closely said they preferred to get their trainees as able-bodied seamen without any prior training in the rate. They said this saved them the trouble of having to break the trainees of bad habits acquired in school. (Hutchins, cited in Lave & Wenger, 1991, p. 73)

In the cases we have been investigating, the apprenticeship model includes (to a greater or lesser extent) a combination of formal off-the-job learning delivered in specialist education and training institutions and the processes involved in on-the-job learning which have underpinned the development of Lave and Wenger's 'situated learning' theory. As Guile and Young (1999, p. 114) have observed, approaches derived from cultural anthropology (such as Lave and Wenger's) do not discuss theories of instruction and present apprenticeship as 'not dependent upon any formal teaching'. The case study material we discuss later in the article indicates the importance of the configuration of informal and formal learning processes for understanding the quality of the teaching and learning environments created under the UK's Modern Apprenticeship. It also highlights the relevance of the institutional arrangements, including the nature of the employment relationship and the formal qualifications required by the programme, to making sense of the lived reality of contemporary apprenticeship.

Gospel's (1995, p. 32) historical work on apprenticeship in industrial settings defines apprenticeship as: 'a method of employment and on-the-job [usually complemented by off-the-job] training which involves a set of reciprocal rights and duties between an employer and a trainee (usually a young person)'. More recently, Ryan and Unwin have developed a definition of apprenticeship with more contemporary appeal:

> A structured programme of vocational preparation, sponsored by an employer, juxtaposing part-time education with on-the-job training and work experience, leading to a recognised vocational qualification at craft or higher level, and taking at least two years to complete, after requisite general education. (Ryan & Unwin, 2001, p. 100)

However, Ryan and Unwin's formulation is only partially applicable to the UK's Modern Apprenticeship. Firstly, in a significant departure from previous practice, the Modern Apprenticeship programme, introduced in 1993 by the then Conservative government, added a third 'stakeholder' to the apprenticeship equation as it gave the State a direct role in its funding and specification. The government delegated responsibility for sectoral design, implementation and evaluation to intermediary publicly funded bodies such as the Learning and Skills Council (formerly Training and Enterprise Councils) and Sector Skills Councils (formerly National Training Organisations). The costs of the Modern Apprenticeship are shared two ways between the employer and the State through public funding of formal training costs and the achievement of the required qualifications. Most modern apprentices have employed-status, which means that the employer is responsible for paying their wages. Secondly, the Modern Apprenticeship differs from earlier forms of apprenticeship, and from Ryan and Unwin's specification, in that successful completion is not tied to a set time period but rather to the apprentice's attainment of government-specified mandatory qualification outcomes. In these ways, the Modern Apprenticeship varies from the historical, traditional and industrial forms of apprenticeships that have been referred to and so provides a different phenomenon under which to examine the usefulness of the concepts of legitimate peripheral participation and communities of practice. Put another way, Modern Apprenticeship can be conceived of as an institutional intervention which overlays the generic processes and relations involved in the newcomer to old-timer journey.

In this article, we use case study evidence [1] to confirm that Modern Apprentices (in similarity with most other new entrants) are given the opportunity to become legitimate peripheral participants as they embark on a journey from the fringe to the centre of a community of practice. However, as a formal government-supported programme, the Modern Apprenticeship aims to achieve more than providing an opportunity for young people to learn jobs and become mainstream members of the workforce. One obvious way in which it attempts to transcend the newcomer to old-timer trajectory conceptualised by Lave and Wenger (1991) and illustrated primarily through the example of craft apprenticeship in traditional societies is through its specification of formal qualification outcomes. In addition, we suggest that the range of employment relationships created under the Modern Apprentice-

ship programme are relevant to apprentices' experience of legitimate peripheral participation. We shall argue that the case of the Modern Apprenticeship highlights where Lave and Wenger's original conceptual framework can be built on through a consideration of the institutional context and arrangements which underpin this new form of apprenticeship and which were either not relevant or were not highlighted in their examples.

Evidence we have collected from three companies providing Modern Apprenticeships illustrates the various ways in which modern apprentices are experiencing apprenticeship and the opportunities and barriers to learning that the programme has produced. In order to help make sense of the lived reality of apprenticeship emerging from the research, we have identified two approaches to characterising contemporary apprenticeship, which we have termed, *expansive* and *restrictive* (see Fuller & Unwin, 2001b). We argue that the notions of expansive and restrictive provide a helpful way of analysing the learning environments being created under the Modern Apprenticeship and the expansive and restrictive forms of apprentice experience to which they give rise. In addition, they also take us beyond Lave and Wenger's (1991) reliance on the metaphor of 'learning as participation' which works well for the sorts of traditional craft-based activities that they focus on, but less convincingly for the complex industrial and commercial settings we are investigating and into which an institutionalised model of apprenticeship is being applied. In our research we have found that the quality and quantity of participation (learning) under the Modern Apprenticeship varies widely. However, factors such as the institutional arrangements, which underpin contemporary apprenticeship, also appear to shape the lived reality of learning via contemporary apprenticeship.

Following the Introduction, the article is divided in to two sections. The first section introduces and elaborates the expansive–restrictive distinction and indicates where we have made connections with Wenger's (1998) focus on the 'work of the imagination' in communities of practice. We also identify a link between our usage of the term 'expansive' and that advanced by Engestrom (1994, 2001) in his theory of organisational learning and transformation. The second section presents case study evidence from the Modern Apprenticeship. Three inter-related themes are identified as underpinning the expansive–restrictive continuum, and evidence in relation to these is used to illustrate the diverse learning opportunities that have been created in each company. The analysis is used to categorise company approaches to apprenticeship according to their expansive and restrictive characteristics.

We conclude by suggesting that reform of the Modern Apprenticeship, and the broader development of contemporary apprenticeships in the UK and other countries, should be built on a good understanding of the theory of situated learning developed by Lave and Wenger (1991) and Wenger (1998). They should also draw on the insights generated by the identification of the expansive–restrictive continuum which extends and elaborates the notion of learning as participation by, for example, highlighting the pedagogical value of incorporating coherently planned on- and off-the-job learning experiences, and developing and reifying a workplace curriculum. Our research has indicated that unless the Modern Apprenticeship can have a more expansive impact on the quality of apprentices' participation and

Fɪɢ. 1. The expansive–restrictive continuum.

EXPANSIVE	RESTRICTIVE
Participation in multiple communities of practice inside and outside the workplace	Restricted participation in multiple communities of practice
Primary community of practice has shared 'participative memory': cultural inheritance of apprenticeship	Primary community of practice has little or no 'participative memory': no or little tradition of apprenticeship
Breadth: access to learning fostered by cross-company experiences built in to programme	Narrow: access to learning restricted in terms of tasks/knowledge/location
Access to range of qualifications including knowledge-based vocational qualifications	Access to competence-based qualification only
Planned time off-the-job including for college attendance and for reflection	Virtually all-on-job: limited opportunities for reflection
Gradual transition to full participation Apprenticeship aim: rounded expert/full participant	Fast—transition as quick as possible Apprenticeship aim: partial expert/full participant
Post-apprenticeship vision: progression for career	Post-apprenticeship vision: static for job
Explicit institutional recognition of, and support for, apprentices' status as learner	Ambivalent institutional recognition of, and support for, apprentice's status as learner
Named individual acts as dedicated support to apprentices	No dedicated individual ad-hoc support
Apprenticeship is used as a vehicle for aligning the goals of developing the individual and organisational capability	Apprenticeship is used to tailor individual capability to organisational need
Apprenticeship design fosters opportunities to extend identity through boundary crossing	Apprenticeship design limits opportunity to extend identity: little boundary crossing experienced
Reification of apprenticeship highly developed (eg through documents, symbols, language, tools) and accessible to apprentices	Limited reification of apprenticeship, patchy access to reificatory aspects of practice

opportunities for personal development, then the programme will continue to add little value to the lived realities of the work-based route for many young people.

Expansive and Restrictive Approaches

As mentioned above, to help understand and categorise the barriers and opportunities to learning being experienced by modern apprentices across our case studies, we have developed two approaches to categorising apprenticeship: expansive and restrictive. Figure 1 lists the features we are associating with the two poles of an expansive–restrictive continuum. The article argues that an apprenticeship characterised by the features listed as *expansive* will create a stronger and richer learning

environment than that comprising features associated with the *restrictive* end of the continuum.

Using case study evidence, we will argue that companies which offer an expansive approach to apprenticeship are more likely to create learning opportunities which foster 'deep learning' (Marton *et al.*, 1984), 'investigative deep-level learning' (Engestrom, 1994) and 'the work of the imagination' (Wenger, 1998) than they would under a more restrictive approach. In his detailed conceptual analysis of the processes involved in learning through belonging to 'communities of practice', Wenger (1998) argues that communities which provide participants with the 'ability to disengage' (as well as to engage) are more likely to become effective learning communities. In some similarity with Wenger's 'work of the imagination', the themes of opening up opportunities for learning through moving beyond a tightly bounded approach to participation run through the attributes we associate with an expansive apprenticeship. Wenger indicates that the work of the imagination consists of a number of processes including:

- The ability to imagine or be in someone else's shoes;
- The defining of trajectories which connect what participants are doing with an extended identity;
- The location of participation in broader systems of time and space;
- Opening access to distant practices eg through excursions and fleeting contacts. (Wenger, 1998, p. 185)

In addition, we have hypothesised elsewhere (Fuller & Unwin, 2001b) that an expansive approach to apprenticeship is more likely to contribute to, or even be in reflexive relation with, the sort of organisational learning and transformation that Engestrom has termed 'expansive learning' (see for example Engestrom, 1994, 2001):

> We speak of *expansive learning*, or third order learning, when a community of practice begins to analyse and transform itself. Such expansive learning is not any more limited to pre-defined contents and tasks. Rather it is a long-term process of re-defining the objects, tools and social structures of the workplace. (Engestrom, 1994, p. 43)

In relation to the notion of 'expansive', our use of the term is deliberate and has two purposes. Firstly, we would argue that from a definitional perspective (and, particularly, when it is deployed in juxtaposition with the term 'restrictive') it helps capture and illuminate an aspect of empirical reality found in our case studies (see below). Secondly, as the research has progressed we have been increasingly concerned to understand the interaction between institutional context, workplace learning environment and individual learning, and how differentiating between approaches taken to apprenticeship might provide a window on the wider culture of learning in the organisation. Historically, apprenticeships have been conceived and experienced as a conservative institution with little or no opportunity for criticism, experimentation or reflection (Engestrom, 1994). Given this, further research is needed to explore whether contemporary apprenticeships which allow for more

expansive practices can be aligned with the more progressive and transformational forms of work organisation, production and learning associated with notions of the 'learning organisation' (see, *inter alia*, Argyris & Schon, 1996; Pedler & Aspinall, 1996), 'expansive learning' (Engestrom, 1994, 2001) and 'learning community' (Wenger, 1998).

Lived Reality of Expansive and Restrictive Approaches in Modern Apprenticeship

Through our investigation of apprenticeship, we have hypothesised that apprenticeship learning is likely to have different meanings in different organisational contexts and that the approach taken to apprenticeship will play a key role in shaping those meanings and, therefore, its lived reality (Fuller & Unwin, 2001b). Evidence from three companies illustrates the contrasting learning environments being created under the Modern Apprenticeship and the opportunities for, and barriers to learning which ensue.

The three companies to which we refer are all associated with the steel industry in England. Company A manufactures bathroom showers and has about 700 employees. It has an extremely well-established apprenticeship programme which significantly pre-dates the introduction of the Modern Apprenticeship, and 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. Currently, the company employs five Modern Apprentices. Of these, 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 (around 40 employees), which provides steel polishing services to other businesses. The vast majority of employees work on the shopfloor as semi-skilled machine operators. The work is managed by the production manager and two company directors. The company 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 currently employs two apprentices who are following the steel industry framework. Company C is a steel 'stock holder' with some 80 employees. It is part of a large Swedish corporation but operates as a stand-alone business that buys and sells 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. It has one apprentice who is following the Business Administration framework.

In companies B and C, unlike in company A, there has been no tradition (or perceived need) for employees to gain technical and vocational qualifications alongside their practical experience. Nevertheless, the competitive strategy adopted by the Managing Director in company C is heavily focused on improving the quality and efficiency of the company's services and this involves developing a new workplace culture which values individual performance, continuous improvement, inno-

vation and customer service. To meet these business goals, the company is investing in management development and customer service programmes largely delivered on-site by external consultants. Elsewhere, we have discussed the diverse learning cultures at our case study companies (Fuller & Unwin, 2001b) and have distinguished between strong (expansive) and weak company training and learning cultures.

We have used a range of methods (including interviews, observations and weekly learning logs) to investigate the opportunities for, and barriers to, learning that exist for apprentices in the three contrasting organisational and cultural contexts. References to the experiences of apprentices working in the three companies are used to illustrate emerging issues. The evidence is analysed in terms of three broad and overlapping themes—'participation', 'personal development' and 'institutional arrangements'—which, together, capture the range of expansive and restrictive features listed in Fig 1. The analysis will show how apprenticeship in company A can be placed towards the expansive end of the continuum and in company B towards the restricted end. The approach taken by company C falls somewhere between the two.

Participation

As new entrants to their companies, apprentices in the three case studies were entitled to embark on a journey from peripheral to mainstream participation. This meant that they worked alongside existing participants. Learning took place as they engaged (increasingly) in the practices of the community and interacted with more experienced colleagues. In these respects, the apprentices had common experiences defined by their legitimate peripheral participation in a community of practice. However, the scope, speed and purpose of their apprenticeship trajectories varied from company to company and this variation seemed particularly germane to the quality of learning experienced by apprentices, and to be illustrative of the expansive–restrictive continuum we have invoked. Evidence from the case studies indicated significant differences in the forms of participation open to these apprentices. In company A, participation over time (four years) and in many internal communities of practice is built into the structure of the programme. Apprentices spend their first year 'off-the-job' in the engineering 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 its separation from the workplace, by 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, while the rest of their time is spent in the workplace. The company's apprenticeship is designed to enable the young person to move around most of its departments (every six to nine weeks) on a 'secondment' basis taking in a range of activities including shopfloor operations, engineering support, production development, machine shop, and administrative and commercial sections.

Each 'secondment' is linked to a learning plan, and evidence that the apprentice has met the learning goals is required. In many cases the department manager or supervisor is an ex-apprentice and has a good understanding of the purpose and value of the system. Observations that we conducted of apprentices on 'secondment' confirmed that this system provided an opportunity for them to join each department (community of practice) as a legitimate peripheral participant. For example, we observed Peter [2] on secondment to the 'Experimental Workshop'. We were informed that this is a good department for apprentices to come to after their year at college because it replicates some of the features of the college workshop and, therefore, provides apprentices with the opportunity to apply the knowledge and skills they have acquired off-the-job in the workplace setting. Another apprentice, Jason, was on secondment to a shopfloor assembly line where he was learning about the tasks and pressures involved in the production process and Paul was in 'quality support' where he was learning how to service instruments by using calibration and measurement techniques.

In addition to the off-the-job provision at college, 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 fund raising for charity and work in the local community. For example, the apprentices visit 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 apprentices in this company, therefore, gain access to multiple communities of practice, inside, outside and near the firm, and the rich opportunities for learning this system makes available.

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 shopfloor environment. They have learned from engaging in the practices of the shopfloor 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 Modern Apprenticeship programme), the apprenticeship identity which Barry and Carl experienced was relatively weak 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'. The provider of these courses is also responsible for helping the apprentices to attain the mandatory requirements of the Modern Apprenticeship framework. He visits the company approximately every six weeks and conducts short (15 minutes or so) sessions with the two apprentices to review their progress. He also spends a similar amount of

time with the company's production manager who is aiming to qualify as a National Vocational Qualification (NVQ) assessor.

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 Modern Apprenticeship) 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. In contrast, Company B has used the Modern Apprenticeship as a vehicle, and possibly as a one-off strategy, to address recruitment difficulties. From the company's perspective, the apprentices' attainment of the Modern Apprenticeship and its specified qualifications has low priority. The principal organisational aim here 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 one or two machines, this is what has happened. In this regard, the apprentices have enjoyed a much less sheltered, broad and gradual introduction into productive work than their peers in company A. At the time of writing, and two years into their Modern Apprenticeships, neither Barry nor Carl has attained the mandatory qualifications.

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 gain experience in the administrative aspects of the business. However, his training and development was very loosely planned, with no off-the-job provision, and he had little opportunity to make formal progress towards the qualifications specified in his Modern Apprenticeship. During a period in the quality assurance department, John was pleased to be offered a permanent job there. John believed that he would have the chance 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, therefore, would have less access to learning in other 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. 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. 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 his newly established expectations had been dashed made it much more difficult for him to interpret the move positively and left him confused about his status in the company.

Our three contrasting case studies indicate how the apprentices learn as legitimate peripheral participants in communities of practice. However, the three examples indicate the relevance to learning quality of the scope, length and aim of the

participation which each apprenticeship entails. Expansive features of participation include:

- participation by apprentices in multiple communities of practice inside and outside the workplace;
- the primary community of practice has a shared 'participative memory' gained through apprenticeship, 'generational encounters' and 'paradigmatic trajectories' (Wenger 1998, p. 238);
- breadth of experience is fostered by planned rotation;
- the apprenticeship programme aims for gradual transition to rounded and full participation.

In terms of the type of approach to participation taken in the apprenticeships offered by the three companies, we have connected expansive features with company A but could see that these were far less applicable to companies B and C. 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'. In these regards, participation in the Modern Apprenticeship programme had failed to extend significantly their learning opportunities beyond those which they would have received as 'conventional' newcomers.

Personal Development

We would argue that the differential opportunities to learn which follow from expansive and restrictive approaches to apprenticeship can also be viewed in terms of their implications for apprentices' personal development. We suggest that three aspects of the expansive approach to apprenticeship are particularly likely to contribute to personal development. These include: the provision of opportunities to reflect on practice; the ability to envisage and experience long trajectories and careers; and opportunities to develop new identities through belonging to multiple communities of practice.

The apprenticeship provided by company A includes planned time off-the-job for formal study at college as well as for other breaks from the work routine. For example, at the time of one visit, Jason was involved in giving a presentation on apprenticeship to training officers from other companies in the area and was making posters for display at a local school's careers' fair. As chairman of the company's apprenticeship association (to which current and ex-apprentices belong), he was also

trying to organise a sponsored activity to raise money for a local charity. The wide range of activities which he and his peers had the opportunity to experience and which flowed from their position as company A apprentices, appeared to provide 'expansive' possibilities for personal development by offering what Wenger (1998) has called 'breaks in routine', long-term trajectories, and the chance to develop the new identities involved in belonging to multiple communities of practice. Wenger's suggestion is that through the ability and chance to reflect, individuals can(a) explore new possibilities for action and personal growth, and (b) make sense of their experiences in terms of the on-going construction of personal narrative or biography.

In contrast in company B, the apprentices have completed the journey to full participation in the community of practice but have little idea of further progression. Their experience of apprenticeship has not included the opportunity to explore what it might mean to go beyond their current position. Post-apprenticeship scenarios have not been discussed within the company and the small size of the organisation means that internal opportunities for progression are negligible. The restricted opportunity for personal development in company B also seems to relate to the absence of any previous apprentices whose trajectories could offer role models (or 'generational encounters') and the bounded way in which work is organised and skills are distributed. For the apprentice, then, an approach to participation which creates opportunities to participate in multiple communities of practice is more likely to facilitate personal development and identity formation than one which confines him or her to a tightly bounded community.

In the case of company C, there are also no ex-apprentices that can act as exemplars for John. However, in his case there are potentially more possibilities for career and personal development as a wider range of activities are available within the company, and potentially, its parent company. As has already been mentioned, John has had the opportunity to work in different parts of the business, although, we would add that his ambiguous status in the company has impinged on the quality (legitimacy) of his participation in the communities of practice in which he has worked. As an individual, John has the advantage of having attained A-level qualifications with grades high enough to enter university and having highly developed information technology skills. He told us that if his opportunities continue to be limited at the company, he will look elsewhere for a job or, alternatively, apply to higher education. John has the background, ability and self-esteem to envision himself in new situations and embracing new identities, social and cultural capital which Barry and Carl in company B do not seem to have. Hodkinson and Hodkinson (2002) argue in their work on the intersection of biography, context and workplace learning, that people's backgrounds and outside interests are highly relevant to their attitudes to learning. This is a reminder that, although important, apprenticeship and work are not the only sources of these young people's attitudes, aspirations and identities. Elsewhere, we have referred to the individuals' personal learning, formal learning, and workplace learning opportunities as their 'learning territory' (see Fuller & Unwin, 2001b).

In summary and in terms of features of an expansive approach, personal development and identity formation can be seen to include:

- planned time off-the-job for reflection and exploration;
- post-apprenticeship progression—envisioning trajectories, availability of role models;
- opportunities for personal development by extending identity through boundary crossing.

In terms of the type of approach to personal development taken in the apprenticeships offered by the three companies, we have connected expansive features with company A but could see that these were far less relevant in companies B and C. The lived reality of the Modern Apprenticeship was providing limited opportunities for personal development in the latter two cases, although the organisational learning environment was less restricted in company C than in company B.

Institutional Arrangements

In many countries, apprenticeship has historically been subject to institutional arrangements including the signing of legal indentures by the apprentice, their parent/guardian and their employer. It should be recognised, however, that, in the UK and contrary to the mythology that can surround apprenticeship, the provision of indentures only ever covered a minority of young males in training and an even smaller share of all young females. The 1925 Ministry of Labour *Enquiry into Apprenticeship and Training* (pp. 29–30) reported that 28% of male apprentices and 6% of female apprentices were covered by indentures. It was more common, therefore, for the apprenticeship arrangement to be covered by a verbal agreement between the parties. Even so, where indentures did exist, they were often magnificent documents in the style of medieval manuscripts and ex-apprentices to this day will have retained their copies (see Fuller & Unwin, 2001a).

In the Modern Apprenticeship, the indenture has been superseded by a training agreement which states the responsibilities of the relevant parties (the employer, the Learning and Skills Council (LSC), training provider and apprentice) but which does not have legal status. We shall argue that the level and form of reification that apprentices encounter provides further insight in to the nature of their experience. Evidence from the three companies is used to illustrate the influence of institutional arrangements including the employment relationship and the role of reification on the quality of learning. Following Wenger, we are using the concept of reification to 'refer to the process of giving form to our experience by producing objects that congeal this experience into "thingness" ' (Wenger, 1998, p. 58).

Employment relationship. Rainbird *et al.* (2001) remind us that learning in contemporary workplaces in countries like the UK takes place within the broader context of the employment relationship and 'managerial strategies of labour control'. In this sub-section we start to explore the relevance of this context to the experience of apprenticeship in our three companies.

The majority of Modern Apprentices, including those in our three case studies, are employed by the companies in which they undertake their apprenticeships. The

employment and salary status enjoyed by apprentices in company A was transparent and unambiguous. The apprentices have a contract of employment which recognises their status as employees but also as apprentices. They are initially paid a relatively low annual salary which is increased by set increments for each year of the apprenticeship. At the end of the apprenticeship term, successful apprentices are likely to be offered a job which takes them on to the mainstream salary grades of the company, thereby confirming their full participation and productive status. In company B, the apprentices were paid a much lower wage than other recruits. The differential was rationalised on the grounds of age as the apprentices were 16 years old on entry whereas other recruits tended to be in their mid-twenties. When the apprentices recently reached the age of 18, their salaries were doubled and brought into line with other employees doing similar jobs but whom, ironically, the apprentices themselves had trained. Not surprisingly, this situation had caused some resentment as the apprentices felt that they had become fully productive employees after a few months, and this perception had been reinforced when they were asked to train subsequent newcomers. 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.

Wenger (1998) argues that 'generational relations' depend on the length of the community's 'reproductive cycle' or the length of time it takes to complete the journey from periphery to mainstream. At company A, a relatively long cycle has been institutionalised in terms of the set length of the apprenticeship (four years) and the annual staging of salary increments. In company B, the reproductive cycle is much quicker and the apprentices' experiences are illustrative of Wenger's observation that, 'Last year's trainee now helps the new trainee. These promotions are mostly unmarked and often hardly talked about, yet they can have significant effects' (Wenger, 1998, p. 90).

The length of the reproductive cycle in company C is unclear because of the lack of clarity about the content and direction of the apprenticeship. There is a strong sense in which John's apprenticeship is 'being made up as it goes along'. 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. For example, this happened when John, rather than any other '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.

Reification.   There are substantive differences in the extent to which naturalistic craft apprenticeship in traditional societies and apprenticeships in advanced industrial societies are reified. For example, Yucatan midwifery centres on the opportunity to learn alongside an experienced practising midwife:

> Apprenticeship happens as a way of, and in the course of daily life. It may

not be recognized as a teaching effort at all … As time goes on, the apprentice takes on more and more of the work load, starting with the routine and tedious parts, and ending with what is in Yucatan the culturally most significant, the birth of the placenta. (Jordan, 1989, pp. 932–934, cited in Lave & Wenger, 1991)

There is apparently little place or need for reification and the codification of knowledge in this form of apprenticeship. As Lave and Wenger argue, however, this does not mean that the newcomer's participation is unstructured and un-planned but rather that practice is handed down (orally) from person to person in successive generations. As a consequence of this, often nepotistic, approach to the reproduction of 'knowledgeable practice', there is less reason to develop represen-tations of the relevant knowledge and skills which can be more widely distributed. While we have argued that the opportunity to participate is fundamental to belonging to a community of practice, the incentive to reify and codify increases in the sorts of contemporary organisational and institutional contexts that we have been researching. Two main sources of reification have emerged. The first is associated with the companies themselves (exemplified by company A) and relates to the extent to which they have mapped the knowledge, skills and tasks to be learned (the workplace curriculum) and structured a programme which gives apprentices access to them. The second relates to the codification of knowledge and competence in the formal qualifications accompanying the apprenticeship. In the case of the Modern Apprenticeship, the framework sets out the minimum qualification requirements needed for the apprentice to complete his or her apprenticeship successfully.

Company A has, over time, created a rich set of resources to support learning in each of the 'secondment' departments which the apprentice visits. These are packaged as the company's 'Apprentice Training Programme' and include a list of the procedures, responsibilities and aims for each secondment, together with a detailed set of learning objectives. Each department's designated apprentice trainer is delegated to: (a) ensure that the apprentice is given the opportunity to gain the specified skills and knowledge; and (b) to sign off the apprentice's achievements during and at the end of the secondment. As apprentices progress through the programme they build up a portfolio which provides a documentary representation of the knowledge and skills they have gained in the workplace. In addition, they pursue the range of formal qualifications specified in the Modern Apprenticeship framework. In the case of engineering manufacture, these include an NVQ Level 3, Key Skills units, an Ordinary National Certificate (ONC) (Level 3) and a Higher National Certificate (HNC) (Level 4). The HNC is not a mandatory outcome of the Modern Apprenticeship but is included as option in programmes aiming to produce more highly skilled engineers and it is a long-standing element in company A's apprenticeship provision.

We observed the final meeting between a recently completed apprentice, Duncan, and his external training provider [3]. The purpose of the session was to check that Duncan had met all the formal requirements of the programme. The table at which

we sat was covered with thick files and documents including: the completed company apprentice training programme; two large portfolios containing evidence for Duncan's NVQ 3 and his completed Key Skills units; his ONC and HNC certificates; and a certificate from the Engineering and Marine Training Authority (EMTA) which symbolized Duncan's successful completion of the Modern Apprenticeship. When asked which of these 'objects' was most important to him, Duncan pointed first to the company apprenticeship and second to the HNC. He said that the former was 'proof' of what he had learned and could do in the workplace, while the latter showed he understood the underpinning principles of engineering and provided a qualification which could give him entry to higher education. Duncan was much less interested in the NVQ and Key Skills awards (the mandatory components of the Modern Apprenticeship) which he viewed as hurdles he had had to surmount.

The reificatory aspects of the apprenticeship in companies B and C have largely been generated by the demand for monitoring and formal qualifications associated with the Modern Apprenticeship. There had been no prior mapping of the workplace knowledge, skills and tasks ('workplace curriculum') that would be relevant to the apprentice. Responsibility for recording the apprentices' progress towards the achievements of the qualifications was taken by the external training provider at the regular review sessions. An important part of his job was to help the apprentices identify how the day-to-day tasks in which they were engaged could be used to generate evidence that they were meeting the competence standards codified in the NVQ and Key Skills units. This process was not always easy as the occupational standards represented by NVQs only approximate (at best) to the work the apprentices were doing.

A central feature of Lave and Wenger's (1991) situated learning theory is the close relationship between learning and practice. We would argue that this can be facilitated by the development of relevant 'learning objects', such as has been achieved in company A's apprenticeship training programme. On the other hand, we have argued that an expansive approach should also include the opportunity for apprentices to 'travel' outside the immediate community of practice (e.g. to a college of further education), to engage in the sort of multiple membership which facilitates deeper learning, reflection and identity development. In this regard, we suggest that although companies B and C fall short of providing the more expansive apprenticeship available at company A, the formal arrangements which accompany the Modern Apprenticeship could be better designed and regulated to extend and support apprentices' learning participation.

In this article we have seen how (in company A) reification can be used to strengthen apprentice learning and to give apprentices access to 'learning objects' and symbols (e.g. the apprentice training programme and HNC) which are highly valued by apprentices but which fall outside the mandatory requirements of the Modern Apprenticeship. It follows that closer attention could be paid to how the Modern Apprenticeship is reified and, in particular, to the types of qualifications it requires. A more creatively and pedagogically driven reification of the programme could improve the quality and consistency of apprentice learning environments, and

raise standards in those organisations, such as companies B and C, which are new to apprenticeship provision.

In summary, the institutional features of an expansive approach to apprenticeship can be seen to include:

- Access to a range of qualifications including knowledge-based vocational qualifications;
- Explicit recognition in the employment relationship of, and support for, the apprentice's status as learner as well as employee;
- Highly developed reification of apprenticeship, connected with practice and accessible to all apprentices.

Overall, the way apprenticeship has been institutionalised in company A provides further illustration of its expansive approach. The company's implementation of the Modern Apprenticeship has seemed to have had little effect on the quality of apprentice learning already being produced under its well-established programme. In comparison, the weak institutionalisation of apprenticeship in companies B and C has created more restrictive learning environments. Company B provides a relatively straightforward exemplar of the features we have attributed to a restrictive learning approach. A more mixed environment has been created at company C by the ambiguity of the organisation's approach to apprenticeship. This scenario has given John a more risky and erratic participation pathway than his peers at company A. However, at the same time, the fluidity of the approach has generated varied learning opportunities and the chance for him to demonstrate and develop his personal qualities. In our view, the weak institutional infrastructure and design manifested, for example, in the limited access to multiple communities of practice which the Modern Apprenticeship allows, is a key reason why the restrictive approach to apprenticeship encountered in companies B and C, which have no inheritance of apprenticeship and little internal commitment to the model, has flourished.

Conclusion

We have used our case study research as an opportunity to explore the applicability of the concepts of legitimate peripheral participation and communities of practice to the apprentice experience under the UK's Modern Apprenticeship programme. We have argued that the expansive or restrictive nature of the approach taken to apprenticeship can be related to: the form participation takes in communities of practice; and the ways in which personal development is facilitated and institutional arrangements are configured. Thus, we would argue, an expansive approach to apprenticeship is most likely to create the conditions for 'deep learning'.

The research findings presented in this article suggest that the Modern Apprenticeship is currently doing little to expand the character of apprentices' journeys from newcomer to mainstream participation. This does not mean that the three companies have all adopted a restrictive approach to apprenticeship

but rather that their approaches (expansive or restrictive) are the product of deeper historical, socio-cultural, organisational and economic processes which it is hard for an externally conceived, and essentially bolt-on intervention, to penetrate.

It follows from the logic of our conceptual framework and empirical findings that reform of the Modern Apprenticeship should be built on a good understanding of the theory of situated learning developed by Lave and Wenger (1991) and Wenger (1998), which encompasses the concepts of legitimate peripheral participation and communities of practice. Reform should also build on the insights into what constitutes high-quality learning in apprenticeship that have followed from: (a) our identification of expansive and restrictive approaches to apprenticeship; and (b) from highlighting the pedagogical importance of developing and reifying the workplace curriculum. Our research has indicated that unless the Modern Apprenticeship can make a more positive impact on the quality of apprentices' participation and opportunities for personal development, then the programme will continue to add little value to the lived realities of the work-based route for many young people.

As a result of its own consultation on ways to improve the Modern Apprenticeship carried out in the summer of 2000, the then Department for Education and Employment asked the Qualifications and Curriculum Authority to develop a range of vocationally relevant awards, to be called 'technical certificates' and to be delivered through a taught, off-the-job programme. In our view, incorporating such technical certificates in to the design of the Modern Apprenticeship has the potential to add an important dimension to the programme because it would provide all modern apprentices with the opportunities to reflect, explore and cross into new communities of practice: in other words, to experience core features of an expansive approach to apprenticeship. However, recent progress on the introduction of technical certificates suggests that the government has reined back on its earlier commitment to their delivery off-the-job and, as a consequence, is missing an opportunity to benefit all modern apprentice through a reform which could strengthen and expand the Modern Apprenticeship framework.

We conclude by proposing that the findings from our research offer valuable insights into the constraints under which contemporary models of apprenticeship are operating in the UK. The economic imperative which drives all companies, and, to a large extent, even organisations in the public sector, ultimately determines the approach which organisations feel able or willing to take when constructing their apprenticeship programmes. At the same time, the length of time which young people spend in general education is increasing in many countries, and more young people are working on a part-time basis to fund their lifestyle expenses. Thus, young people and workplaces are changing. We would argue that apprenticeship is still a relevant vehicle through which to form a bridge between education and the workplace, to develop skills and knowledge, and to enable people and organisations to realise each other's potential. The form which apprenticeship needs to take at the start of a new century is, however, necessarily different to that of the past, and in the case of the UK, even of the present.

Acknowledgements

Notes

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[2] We have changed apprentices' names to preserve anonymity.
[3] In the UK context, external training providers normally refer to training organisations which are contracted to provide aspects of government-supported programmes. In relation to the Modern Apprenticeship this would often include the Key Skills units and the assessment of the National Vocational Qualification.

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