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THE CENTRE FOR LABOUR MARKET STUDIES

Learning as Work: Teaching and Learning Processes in the Contemporary Work Organisation

**Applying the Survey Method to Learning at Work:
A Recent UK Experience**

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David Ashton, Peter Butler,
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**Learning as Work Research Paper, No. 3
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ABSTRACT

The skills debate in many European countries has for many years been preoccupied with the supply of qualified individuals and participation in training events. This emphasis is reflected in the sources of systematic data currently available to policy-makers and academics in the field. However, recent case study work suggests that qualifications and training are partial measures of skill development as most learning arises naturally out of the demands and challenges of everyday work experience and interactions with colleagues, clients and customers. This paper argues that the 'learning as acquisition' and 'learning as participation' metaphors aptly capture these two competing intellectual traditions. Despite the substitution of the word 'learning' for 'training', the preoccupation with measuring exposure to conscious and planned events which are set up to impart knowledge and skills remains as strong as ever and typifies the 'learning as acquisition' approach. This paper outlines an experiment that was designed to give the 'learning as participation' metaphor a firmer survey basis than it has hitherto enjoyed. The resulting survey of 1,943 employees carried out in February 2004 in the UK highlights the importance of social relationships and mutual support in enhancing individual performance at work, factors which individual acquisition of qualifications and attendance on courses ignores. The paper also confirms the importance of work design in promoting and facilitating learning at work in all its guises.

APPLYING THE SURVEY METHOD TO LEARNING AT WORK:

A RECENT UK EXPERIMENT

‘Learning is no longer a *separate* activity that occurs either *before* one enters the workplace or in *remote* classroom settings. Nor is it an activity preserved for the managerial group. The behaviors that define learning and behaviors that define being productive are one and the same. Learning is not something that requires time out from being engaged in productive activity; learning is the *heart* of productivity activity. To put it simply, learning is the new form of labor’ (Zuboff, 1988: 395; our emphasis).

1. INTRODUCTION

‘Learning’, ‘skills’ and ‘training’ are words that are frequently used whenever explanations are sought for a country’s relative economic standing. Both episodic international employer-level studies – such as the European Commission’s Continuing Vocational Training Survey (CVTS) – and more regularly conducted individual-level polls – such as the European Community Labour Force Survey (EULFS) – encourage these kinds of explanations. They also prompt the compilation of league tables and international scoreboards (Eurostat, 2002; Felstead *et al.*, 1998). However, headline writers often use ‘learning’, ‘skills’ and ‘training’ interchangeably in a bid to produce eye-catching phrases with little regard to the conceptual distinctions.

Policy-makers, too, have a tendency to use terms that are convenient rather than precise. Learning has become the new buzzword and is often prefaced according to its location (workplace), duration (lifelong) or breadth (lifewide) (Stern and Sommerlad, 1999). However, its use serves to acknowledge that learning can arise in a variety of settings, including the demands and challenges of everyday work experience and social interactions with colleagues, clients and customers. Where once policy-makers would have used the word ‘training’, they now use the word ‘learning’. To reflect this change of emphasis, survey results and sometimes their titles have simply been re-badged to reflect this policy spin. Despite its billing the Learning and Training at Work (LTW) survey, for example, is still mainly focused on measuring training based on a concept first used in 1987 (Spilsbury, 2003). This

defines training as ‘the process of acquiring the knowledge and skills related to work requirements by formal, structured or guided means’ and specifically *excludes* ‘general supervision, motivational meetings, basic induction and learning by experience’ (Training Agency, 1987: 14). Equipped with this definition, employers are asked a series of questions about the training activities they provide to workers. In other words, the LTW survey remains rooted in a tradition of measuring the additional productive capacity of individuals in terms of whether or not they have attended certain courses or have followed a structured programme of activities under the guidance of others.

The same goes for many surveys which focus on the narrow interpretation given to ‘training’ by respondents. If unprompted, individuals regard training as formal courses and employers view it as an activity they fund and/or initiate (Campenelli and Channell, 1994; Felstead *et al.*, 1997). However, some progress is being made to widen the reach of survey instruments. The National Adult Learning Survey, for example, is not restricted to ‘education and training as conventionally understood – viz. periods of instruction received from a teacher or trainer’ (Beinart and Smith, 1998: 33) but collects information about respondents’ involvement in both taught and self-directed learning. These include questions on self-study using a package of materials, receiving supervision from a more experienced colleague while doing a particular task and keeping abreast of occupational developments. This offers a slightly broader perspective on learning at work and suggests that the workplace itself offers opportunities for learning that cannot be easily provided in other venues. Some of these questions now regularly feature in the UK Labour Force Survey (Fitzgerald *et al.*, 2003) and have made their way into the EU’s ad hoc survey on lifelong learning carried out in 2003 (*Official Journal of the European Communities*, 2002).

However, further development work is necessary on account of two factors. First, there is still relatively little survey data on other forms of learning activity – such as watching, listening and learning from others – which can only be undertaken on an on-going basis as an active participant in the workplace. Secondly, it is presumed that survey respondents can delineate learning from work and are therefore able to recall with precision their involvement in specific events, episodes and

activities during a certain period of time in the past – over the last four weeks (as in the EULFS) or over the last year (as in CVTS). It is presumed that higher participation rates in these events and greater exposure to them is indicative of greater learning and, therefore, skill levels. However, such measures exclude any ‘on-going activity that cannot be distinguished from work’ (Eurostat, 2002: 9). In other words, the question stem gives greater emphasis to deliberative, conscious and planned interventions and is less likely to capture other equally, if not more important, learning activities that arise naturally as part of the work process (for a review of existing survey instruments, see Fuller *et al.*, 2003).

This paper argues that survey designers need to be more innovative in question construction by building on the lessons of case studies which focus on how learning takes place in the work context (Eraut, 2000; Fevre *et al.*, 2001; Boreham *et al.*, 2002; Fuller and Unwin, 2003). The main finding to emerge from this literature that is qualifications and training provide a partial account of skill acquisition since, in the words of Zuboff (1988: 395) quoted at the top of this paper, ‘learning is not something that requires time out from being engaged in productive activity’ but arises naturally out of the demands and challenges of everyday work experience. The paper outlines how these lessons have been integrated into an employee survey carried out in the UK in 2004. The survey results highlight the relatively high importance of social relationships and mutual support in helping individuals to improve performance at work compared to the relatively low importance attached to qualifications and attendance on courses about which we have long-running and systematic data series. This especially applies to employees lower down the occupational rankings. In addition, the paper traces the links between various sources of learning and the workplace context.

The paper is structured as follows. Section 2 briefly outlines two competing conceptual approaches to the study of workplace learning. The paper argues that the ‘learning as acquisition’ metaphor is the analytical construct that guides, informs and shapes the construction of most surveys. While the policy language has changed, the notion of ‘learning as acquisition’ (of qualifications and training) is still in the ascendancy. However, the ‘learning as participation’ metaphor has much to offer and has the potential to provide new and interesting insights on the activities which

individuals find most useful in enhancing performance at work. Section 3 details the impact both metaphors have had on our survey design, the methods of data collection and the construction of the measures used in the results presented in Section 4. The results also make a contribution to inter-disciplinary dialogue by examining the connections between learning and work design, issues which excite organisational theorists and those interested in raising business performance (e.g., Appelbaum *et al.*, 2000; Skule, 2004). Section 5 concludes the paper by outlining the implications of the survey design and its results for policy and future research.

2. TWO CONCEPTUAL FRAMEWORKS

Increased policy interest in learning has prompted a number of academics to ‘sketch a bird’s eye view of the competing trends in our present conceptualizations of learning’ (Sfard, 1998: 4). These have been variously referred to as ‘metaphors’ (*ibid*), ‘paradigms’ (Hager, 2004) and ‘models’ (Hager and Butler, 1998). However, despite their various labels, there is a fair degree of unanimity on the principal parameters of the conceptual landscape. Theories of workplace learning fall into two camps. On the one hand, there are those who see learning as a product with a visible, identifiable outcome, often accompanied by certification or proof of attendance. In this paper, we refer to this as ‘learning as acquisition’. On the other hand, learning can be conceived of as a process in which learners improve their work performance by carrying out daily work activities which entail interacting with people, tools, materials and ways of thinking as appropriate. ‘Learning as participation’ aptly encapsulates this process (both phrases originally coined by Sfard, 1998). Researchers in the ‘activity theory’ tradition (notably Engeström, 2001) have extended the participation metaphor to emphasise the transformative potential of workplace learning, and have suggested that ‘learning as construction’ captures this dimension.

The distinctive character of learning as acquisition rests on three assumptions. First, the approach treats learning as a stockroom or vessel to be filled: ‘an individual human mind steadily being stocked with ideas’ (Beckett and Hager, 2002: 97) or ‘the human mind as a container to be filled with certain materials’ (Sfard, 1998: 5). This elevates the mind over the body and makes learning an individualistic activity with

the result that evidence-based policy seeks ways to enhance this accumulation process and make it visible (Björnavåld, 2001). The individual learner is therefore given primacy in any analysis and becomes the object of strategies designed to raise and reveal attainment. Secondly, learning can only take place when new ideas are neatly stocked alongside others with any inconsistencies corrected. This ordering and stockroom management can only be achieved by the activities of individual minds. Once again, this privileges the mind over the body since this approach to learning emphasises thinking (what minds do) over action in the world (what bodies do). Thirdly, the learning as acquisition metaphor implies gaining ownership of a self-contained body of material. This material may be described as facts, schemas, materials, concepts, notions, frameworks and so on. Whatever the term, they all imply transparency, an ability on the part of the learner to articulate what has been learnt and the enduring nature of the stock of knowledge acquired. Once in an individual's possession, this knowledge (in common with other commodities) can be applied, transferred, traded and shared with others.

On this basis, it is possible to identify the best and most desirable learning. This comprises a set of abstract ideas – such as concepts and propositions – that have universal applicability and can be readily conveyed to others by word of mouth, written documents and/or demonstration. Learning that does not conform to these standards is automatically regarded as inferior and second-rate (Hager, 2004). Learning that takes place outside educational institutions, but is important for workplace performance, is therefore typically undervalued. Adopting this approach, the considerable activities that Darrah's (1996) wire-maker operators undertake to do their jobs, for example, would not be regarded as 'desired' learning since the three assumptions of the approach are not met. The identification of workplace experts who help out with trouble-shooting is at odds with the individualisation assumption. Getting to know the 'feel' of the wire moving through the machine and knowing when a break is likely rather than relying on documentary evidence puts the body rather than the mind in control. Developing a 'sixth sense' of what is possible on which machine and knowing when to make adjustments while maintaining production is, by definition, difficult to codify and transfer; it, therefore, runs counter to the transparency assumption.

Examples such as this have prompted growing levels of dissatisfaction with the prevailing orthodoxy which tends to devalue workplace learning in general (Billett, 2002). An alternative paradigm is beginning to emerge which focuses on the social relations of production and the ways in which people actually improve their capabilities at work (for a more detailed review, see Lee *et al.*, 2004). This approach recognises that learning in formal educational settings cannot account for the diverse and on-going learning that occurs in the workplace which is not always formally accredited. This has been referred to as the learning as participation metaphor. It depicts learning as fluid – produced and continually reconstructed through relationships with and interactions between individuals – rather than as an object which is acquired, internalised and owned. Terms such as ‘participation’, ‘reflection’, ‘dialogue’, ‘watching’ and ‘listening’ indicate this change of emphasis as Sfard explains:

‘... [T]erms that imply the existence of some permanent entities have been replaced with the noun “knowing”, which indicates action ... the permanence of *having* gives way to the constant flux of *doing* ... ongoing learning activities are never considered separately from the context within which they take place ... The set of new key words ... suggests that the learner should be viewed as a person interested in participation in certain kinds of activities rather than in accumulating private possessions’ (Sfard, 1998: 6; her emphasis).

This metaphor has three essential features. First, it stresses the crucial role of action in learning. At its extreme, it suggests that without action there can be no learning and once in action learning is inevitable (Jarvis, 1992). This means that it is impossible to separate learning from action, and hence the process and products of learning become indistinguishable and entwined with one another in a circular, symbiotic loop. It also emphasises the impermanence of learning outcomes in the absence of regular practice. Second, embodied action is embedded within a particular context. This shapes and transforms individuals and sets the parameters of the learning environment. Thirdly, learning is born out of interaction with the world in which we reside – the people with whom we work, the tools and concepts we use, and the organisations with which we liaise. This feature shifts the ontological focus of the

debate beyond the isolated individual to their relations with peers, managers, clients and industry representatives. This rejection of didactic understandings of teaching and learning is most evident in the ‘communities of practice’ literature pioneered by Lave and Wenger (1991) and the ‘activity theory’ approach of Engeström (2001). In the former, learning occurs outside the individual’s mind, or even body, and instead arises out of participation in a network of relations known as communities of practice. In the latter, learning naturally occurs when the work process – carried out according to accepted workplace rules, modes of behaviour and mediating artefacts – encounters contradictions and tensions that need to be resolved. It should be noted that Engeström (ibid; 1994) stresses the continued importance of expert instruction or teaching as an interdependent aspect of what he calls ‘expansive learning’ co-existing with participative learning. The significance here is that the instruction or teaching may be provided by co-workers and not, necessarily, a ‘qualified’ expert (see Fuller and Unwin, 1998).

It is possible to detect a schism in the empirical literature drawn around these two conceptual camps. On the one hand, much of the policy-led research takes human capital theory as its frame of reference and implicitly adopts a ‘learning as acquisition’ perspective. This is evident in the analytical measures used. These include qualification attainment, years spent in formal education and the incidence of training. These indicators are often referred to as ‘human capital endowments’, and are used to explain why the better endowed are higher paid and vice versa. They are also easy to measure – the number and type of qualifications a person has can be counted, the number of years spent in full-time education can be calculated and individuals can recall whether or not they took part in a training event in the preceding weeks/months (however, powers of recall diminish the longer the period). Such measures are commonly found in national surveys throughout the world with tried and tested question formulations now standard (OECD, 1997).

However, case study research on workplace learning tends to adopt a ‘learning as participation’ approach. In-depth studies of a wide variety of jobs – such as engineers, accountants, nurses, miners and teachers (Eraut *et al.*, 1998; Fevre *et al.*, 2001; Boud and Middleton, 2003; Hodkinson and Hodkinson, 2004) – suggest that a great deal of learning goes on at work that is not picked up by standard survey

questions. Nevertheless, this learning is often crucial to the effective execution of tasks. While these studies recognise that learning at work is ongoing (Leman, 2003), they limit its reach by only including ‘significant changes in capability or understanding, and exclude the acquisition of further information when it does not contribute to such changes’ (Eraut, 1997: 556).

Despite well entrenched positions, both sides of the conceptual and empirical debate recognise the valuable insights that the other provides. It is notable, for example, that guidance on how to collect survey data on vocational training includes ‘*all* the various processes by which an individual develops the competencies required for employment-related tasks’ (OECD, 1997: 19; original emphasis). This includes ‘figuring things out’, watching others and learning by doing. However, the measures proposed are drawn from the learning as acquisition approach as they relate to the time spent doing each activity instead of measuring the impact they have on workplace behaviour. At the other extreme, the development of summative assessments of the outcome of the learning process, whatever this comprises, over-emphasises behavioural outcomes and sidesteps entirely the sources of learning associated with professional/occupational identity formation (Boud and Solomon, 2003). Nevertheless, these assessments do recognise that much knowledge is ‘acquired through practice and painful experience ... [and] is taken so much for granted’ (Björnavåld, 2001:24-25). Similarly, those steeped in the case study approach and the associated learning as participation metaphor recognise the value of measurement and assessment. Hager (2004: 257), for example, argues that:

‘... further research is needed to expand our understanding of learning from work and the most appropriate ways of measuring its progress and enhancing its development’.

This paper and the survey it reports is a response to this challenge.

3. DATA SOURCE, MEASURES AND METHODS

It is perhaps ironic that researchers in the field have rarely crossed the methodological and conceptual boundaries identified above. To date, the only

example of such boundary crossing activity is a Norwegian telephone survey of 1,502 employees carried out in 1999 (Skule and Reichborn, 2002 and 2000). Like the survey reported in this paper, the Norwegian survey took as its starting point a dissatisfaction with the orthodox measures of learning such as participation rates, training hours, the financial cost and level of qualification awarded. Instead it focused on identifying the conditions associated with learning-intensive jobs. These jobs were defined according to the subjective judgement of the occupants, the length of specific learning required to do the job well, and the durability of the skills learnt. Analysis of the findings suggests that learning-intensive jobs are closely associated with a number of conditions. These include a demanding and changing environment, high levels of managerial responsibility, extensive professional networks, performance feedback, supportive management and higher job rewards (Skule, 2004). While the survey provides an important step forward in our thinking, when examined in detail it appears tautologous since the learning intensiveness of jobs is explained by the learning opportunities respondents report (in other words, learning appears on both sides of the regression equation). It is not surprising, therefore, that the two are closely related; indeed it would be worrying if they were not. Nevertheless, the connections between learning and work design are worthy of further examination.

The failure of surveys to capture – or even attempt to capture – the sources of learning associated with everyday work experience, yet amply identified by case study research, provided the inspiration for our survey design. The launch of the government's Skills Strategy in 2003 (DfES, DTI, HM Treasury and DWP, 2003) along with the results of the Cabinet Office's investigations into adult skills (PIU, 2001; Strategy Unit, 2002) has raised the profile of the workplace as a source of learning and made it an area of topical interest worthy special investigation. In association with the UK's National Institute of Adult Continuing Education (NIACE), we produced a module of questions on learning at work for insertion into the 2004 Adult Participation in Learning Survey. This survey has been carried out in the UK on annual basis since 1999 with occasional batteries of questions on issues of topical interest (see Aldridge and Tuckett, 2003 and 2004). A series of survey questions were, therefore, produced. These aimed to:

- reveal sources of learning associated with everyday work experience;

- identify the relative importance of different sources of learning;
- trace their workplace correlates.

The questions formed a module, known as the Learning at Work Survey (LAWS), which comprised part of a weekly omnibus survey carried out by Research Surveys of Great Britain (RSGB). Face-to-face interviews with individuals aged over 16 years old were carried out in people's homes during a three-week period in February 2004. The LAWS questions were asked of 1,943 employees who were selected randomly for interview by address. Quotas were imposed on the sample and the results were weighted to produce a representative picture of the UK at the time.

Survey researchers expend considerable effort in devising survey questions that are understandable to respondents and have conceptual purchase for analysts. The meanings which respondents and analysts attach to the same words is, therefore, a crucial task in survey design. The meanings attached to the word 'training', for example, have been the subject of thorough investigation (Campenelli and Channell, 1994). Analysis of the everyday use of the word 'training' and cognitive interviews with survey respondents following the administration of a series of 'training' questions shows that there are substantive variations in the interpretation given to the meaning of 'training' when used in interviews used to gather data. Respondents typically view training in narrower terms than do researchers, often restricting their interpretation to formal training courses. Employers tend to confine their conception of training to that which they fund or initiate. Furthermore, respondents with different educational and other characteristics include different activities. Campanelli and Channell (1994) suggest that instead of asking individuals about their training activities, a more useful approach is to ask about how they learned to do their jobs and then to list specific activities in order to prompt individuals to identify not only formal training activities, which may or may not lead to certification of some kind, but also other types of learning activity.

This particular approach was adopted in the Family and Working Lives Survey carried out in 1994/1995 with 11,237 individuals aged 16-69 years old (Dex and McCulloch, 1997). It was also adopted, in part, by the Meaning of Training Survey

(Felstead *et al.*, 1997). The individual-level element of this research was carried out in February 1996 and comprised 1,539 face-to-face interviews. The results demonstrated that training participation rates rose as soon as a prompt card was presented to respondents who initially did not report receiving job-related education and training prior to interview. In this particular case, 2.9 percentage points were added to the standard LFS four-week participation rate and 5.0 percentage points were added to the thirteen-week rate. Respondents were then asked to say in which modes of training they had engaged. The responses suggested that the less formal modes – ‘instruction or training whilst performing your normal job’, and ‘teaching yourself from a book/manual/video/cassette’ – were the most likely modes to be under-reported. This finding is consistent with the conclusions of Campanelli and Channell (1994), who show that respondents often take a narrower view of the meaning of training than do researchers or policy-makers. Nevertheless, ‘teaching yourself’ appears to be an important, if under-estimated, mode of training.

The narrow interpretation respondents give to the word ‘training’ is particularly problematic when surveying small businesses since they tend to be more heavily reliant on informal learning. In this context, a recent telephone survey of small employers invited respondents to think of ‘training’ in broad terms ‘to include any activities at all through which managers and workers improve their work-related skills and knowledge. These activities may occur on- or off-the-job. They may occur in short bursts or be over a longer period of time. They may be linked to a qualification or not’ (Kitching and Blackburn, 2002: 4). Throughout the survey, similar but shorter phrases were used to remind respondents to conceive of training broadly at least for the purposes of the survey (also see Small Business Council, 2003).

Nevertheless, in all of these surveys, respondents were asked to report their involvement in a particular activity or the existence of such activities in the workplace. To give the resulting measure precision, respondents were asked to give their response in respect of a particular time period – for individuals, this was typically over the four weeks immediately prior to interview, while employers were frequently asked to cast their minds back over the last year. This gives emphasis to

the (detectable) existence of activities rather than their usefulness for prompting a significant change in capability or understanding (or learning for short).

The LAWS offers a different perspective. Its respondents were given a list of activities (that can be conducted in, during and out of work) and were asked to what extent each has helped them to learn to do their job better. Respondents were asked to choose a response from a five point rating scale. This is in accord with the 'learning as participation' metaphor and its emphasis on process *and* outputs. However, the activities themselves reflect both metaphors. The learning as acquisition approach and its emphasis on filling the human mind with materials that are delivered, conveyed or facilitated by another was captured by asking respondents about the usefulness of five activities. These were: training received; qualifications studied; abilities acquired outside of work; work-related reading undertaken; and the internet as a source of information. For ease of analysis, these five questions have been summarised as a 'learning as acquisition score' in the subsequent analysis (see Table 3, note 1 for details). The 'learning as participation' metaphor gives a greater emphasis to taking part in activities, the fluidity of actions, the dialectical nature of the process of learning and the importance of the workplace as well as the classroom as a site of learning (Cunningham, 2004). In order to assess and map the relative learning potential of these activities, the survey asked respondents to rate the usefulness of the following five activities in helping them to improve their work performance: doing the job; being shown by others how do things; reflecting on one's own performance; watching and listening to others; and using trial and error on the job. From these responses, a 'learning as participation score' has been derived for use in the subsequent analysis (see Table 3, note 1 for details).

The survey also contained a number of measures relating to the workplace environment and in particular the degree of employee influence and involvement at work. Unlike other attempts to make the connection between learning and work organisation (e.g., Skule, 2004; Skule and Reichborn, 2002), the LAWS questions on the latter were framed with no reference to learning. The separation is important since it prevents respondents making the connection themselves which can lead to accusations of circularity in statistical associations between the two. In this paper, the connection is made using multivariate analysis of the association between learning as

conceived and measured by the LAWS and the work organisation variables it contains. These results are presented towards the end of the following section.

4. RESULTS

A major innovation of the LAWS was the collection of data on how individual employees rated various activities in terms of their helpfulness in enhancing work capabilities. Over half (51.8%) reported that simply doing the job had helped them learn most about how to improve. This was corroborated elsewhere in the survey. Almost nine out of ten respondents said that their job required them to learn new things and pass on tips to colleagues, and a similar proportion agreed that they had picked up most of their skills through on-the-job experience. However, not all work activities proved to be as helpful. The use of the internet, for example, to download materials, participate in e-learning and seek out information was regarded as being of no help at all to almost half the sample (49.7%). Despite the emphasis placed on training course attendance and the acquisition of qualifications, both were lowly rated by our respondents in terms of their helpfulness in improving work performance. Activities more closely associated with the workplace – such as doing the job, being shown things, engaging in self-reflection and keeping one’s eyes and ears open i.e. facets associated with learning as participation – were reckoned to provide more helpful insights into how to do the job better. All of these factors were rated as more helpful sources of learning than attending training courses or acquiring qualifications (see Table 1, Panels a and b). These results suggest that codified knowledge is at its most useful when gaining *initial* competence at work, but its potency declines as a means of *improving* performance. At this stage, the workplace – and the everyday activities it comprises – provides the most highly rated source of learning.

‘Put Table 1 about here’

It is well known that exposure to training is heavily skewed towards those at the top of the occupational hierarchy (Felstead *et al.*, 2000; Green, 1999; Machin and Wilkinson, 1995). For these relatively privileged individuals, the incidence of training is higher, the intensity of the experience is longer and they are more frequent recipients of training than those lower down the occupational scale. It is, therefore,

not surprising that ‘Managers’ rated training courses and skills acquired while studying more highly as a source of learning than those in ‘Sales’, ‘Operative’ or ‘Elementary’ occupations. However, the survey suggests that this pattern is repeated for sources of everyday learning at work. For example, overall ‘Managers’ rated ‘learning by doing’ more highly as a source of job improvement than those working in ‘Elementary’ occupations.

Nevertheless, the pattern of responses *within* occupational groupings suggest that those lower down the occupational hierarchy drew relatively more insights from their daily activities in the workplace than those acquired outside via training courses, study, outside interests, reading or the internet. ‘Operative’ and ‘Elementary’ job-holders, for example, rated all of the workplace-centred activities as more helpful than those acquired outside. ‘Professionals’, on the other hand, reported a more mixed picture. For them, training courses and skills acquired through study figured prominently on the list, while watching/listening and being shown how do things were comparatively less helpful (see Table 2, Panels a and b).

‘Put Table 2 about here’

Table 3 confirms these occupational patterns. It shows that learning by acquisition (typified by training courses and qualifications) rises with occupation. So, for example, the learning as acquisition activities were, on average, regarded as being ‘quite a lot of help’ (2.67) in enhancing job performance for the top three occupations, ‘of some help’ (2.14) for the middle group of occupations and of only ‘a little help’ (1.38) for jobs in the bottom three categories. Further analysis (not shown) confirms that these differences are statistically significant (for more detail, see Felstead *et al.*, 2004).

Similarly, the benefits gained from learning as participation (typified by activities arising naturally out of the demands and challenges of everyday work experience and interactions with colleagues, clients and customers) are also skewed by occupation. However, on the face of it, the occupational differences for learning as participation are much closer than for learning as acquisition. The helpfulness ratings in this case are 2.85 for the top three categories, 2.70 for the middle three groups and

2.48 for the bottom three occupations. Nevertheless, the differences remain large enough to be statistically significant (at the 1% level).

‘Put Table 3 about here’

Table 3 also confirms that differences persist *within* as well as *between* occupational groups. By looking across the columns while moving down the occupational hierarchy, a clear pattern emerges. The importance of learning as acquisition declines more quickly than learning as participation and as a result the overall character of learning changes according to the type of job under focus. Among the top occupational groups, the acquisition of skills is roughly on a par with learning through daily work activities, among the middle group it is the more junior partner and among the bottom group of occupations it plays only a minor role.

The importance of managerial support for learning has only recently been recognised in the literature (Eraut *et al.*, 1999). Managers can provide helpful advice on job improvements, suggestions on how to cope with work pressures, identify the limits of those in their charge and offer counselling on job moves. The LAWS, therefore, asked respondents to rate the helpfulness of their manager (where they had one) in each of these roles. On all counts, managers provided support that was at least ‘of some help’ to job-holders. Managers were particularly good at recognising the extent of the abilities of those under their charge. A fifth (27.1%) of respondents reported that their manager’s ability to recognise their limits was of ‘great help’ in their being able to work effectively.

‘Put Table 4 about here’

Once again, helpfulness ratings varied according to occupational ranking. Those furthest down the hierarchy found their managers to be less helpful in all of these respects than those in more elevated occupational positions. Managers had particular difficulty in spotting the potential of lower grade workers by encouraging them to seek promotion. However, those in ‘Personal’ and ‘Sales and Customer Service’ occupations gave their managers relatively high helpfulness ratings on promotion advice and other aspects of learning and development.

In order to examine the extent to which learning in its various guises is related to the organisation of work (Butler *et al.*, 2004), the survey included a number of questions on work organisation designed to capture the degree of employee influence and involvement at work. While all jobs are carried out within prescribed rules – whether set by law, occupational standards or custom and practice – an element of choice/judgement/autonomy remains. This varies from job to job and is exercised at a number of levels: during the execution of tasks; when broader job-related decisions are taken; and when organisational changes are proposed. The survey collected data on the latitude employees were able to exercise at each of these levels (Braverman, 1974; Zuboff, 1988; Gallie *et al.*, 2004).

According to the results, almost three out of five (58.6%) employees reckoned that they had ‘a great deal’ of influence over how hard they worked, but only two out of five (40.1%) felt they had the same degree of influence over what they did on a daily basis. This pattern of results broadly reflects other surveys which have used similar questions in recent years (Gallie *et al.*, 2004; Felstead *et al.*, 2004). Respondents claimed to have far less influence over broader (as opposed to day-to-day) decisions relating to the way they did their job. Only one in five (19.7%) claimed to have ‘a great deal’ of influence over these matters. At the other end of the spectrum, relatively few respondents reported that they had no influence at all in day-to-day or broader decisions relating to their job. Around four out of five (81.6%) respondents reported that they worked as part of a team of people on a daily basis. Team membership provides an additional source of influence over how individuals carry out their work on daily basis. What emerges from the data is that group influence is more muted than the discretion levels individuals claim to enjoy. Only one in five respondents claim that their work group is able to exercise ‘a great deal’ of influence over day-to-day job decisions. Even if those who do not work in a group are excluded from the analysis, the proportion only rises to about one in four. Almost three out of ten respondents reported that either they did not work in a group or else the group had no influence whatsoever over work intensity, task allocation, work execution or the quality of what was produced.

‘Put Table 5 about here’

To complete the picture, respondents were asked about management practices that seek to involve workers more in the broader decision-making processes by providing greater access to information about the organisation. Around three-quarters of those interviewed said that management organised information-sharing meetings (78.4%) and a similar proportion (72.3%) arranged meetings where workers' views about what was happening in the organisation could be aired. In addition, the survey asked respondents whether or not they had made work-improvement suggestions to management over the last year. Three-quarters (73.9%) claimed to have done so. Two-thirds (66.0%) of respondents also reported that their place of work had an appraisal scheme in which an individual's work performance was reviewed and discussed on a regular basis. These proportions are in line with other surveys recently carried out (Felstead and Gallie, 2004; Millward *et al.*, 1999: 229-232; Guest, 1999).

Several research studies have sought to examine the links between work organisation and a variety of relevant variables. These include formal training episodes (e.g., Osterman, 1995; Whitfield, 2000), skills (e.g., Appelbaum *et al.*, 2000; Felstead and Ashton, 2000) and learning-intensive jobs (e.g., Skule, 2004). However, to our knowledge, the two metaphors of learning that this paper has highlighted and applied to existing studies such as these have not: (a) been operationalised in a single survey; and (b) been related to the organisation of work. The previous analysis (and, in particular, Tables 1, 2 and 3) has focused on what the survey results reveal about learning as acquisition and learning as participation. The data set also contains information on the work context (as discussed above and reported in Tables 4, 5 and 6). This provides an opportunity to examine the empirical association that these contextual variables have with the two metaphors of learning.

To test this association, summary measures are used for the two metaphors of learning, the involvement and influence at work that individuals enjoy, and the support provided by immediate line managers (as described in the technical notes to Tables 3 and 7). The usefulness of the two learning routes are regressed against these work organisation variables and derivatives thereof in three models. Each model represents a separate regression with the learning score as the dependent variable and

the independent variables listed in the left hand column. The results suggest that the nature of work organisation makes a significant difference to the extent to which individuals learn by acquisition or by participation. In both cases, the coefficient on the involvement and influence at work rating is highly significant (see Model 1 in Panel a, Table 7). Breaking the elements of this variable into its constituent components – individual influence, group influence and involvement practices – makes no difference to the story. Each component is closely and positively associated with learning – the greater the level of influence or involvement at work, the more individuals report learning from the training courses they have been sent on, the qualifications they have studied for (learning as acquisition), and their everyday work experience (learning as participation) (see Model 2 in Panel a, Table 7). The explanation is that both types of learning are enhanced when employees are involved in organising, planning and checking the quality of their own work. This may be through teams that have their own responsibilities and are given the freedom to determine how work is organised or through individuals given the autonomy to organise their own work tasks, pace and standards. Either way, problems have to be resolved as and when they arise, and the solutions communicated to fellow colleagues. The solutions found will be more effective in enhancing organisational performance when knowledge about the production process and the organisation's prospects is widely known, and effective feedback mechanisms are in place.

The importance of line management support for learning is also evident in the data. The more helpful managers are in terms of offering advice on job improvements, coping with work pressures, identifying the limits of those in their charge and providing job counselling, the more individuals report that they are benefiting from their existing human capital endowments and the activities of everyday working (see Model 3 in Panel a, Table 7).

It is notable that all of these associations hold irrespective of the type of job held since each regression isolates the statistical relationship each independent variable has on the usefulness of activities for learning holding all other things constant. However, the cross-tabulations presented above suggest a strong relationship between occupational ranking and access to codified knowledge that is acquired and can be possessed. For everyday learning, the occupational differences

are not as great but are still marked (cf. Table 3). Multivariate analysis presents a stronger test of these associations. It confirms that those higher up the occupational hierarchy find the possession of codified knowledge of greater help to them in improving their work performance than those further down the occupational scale. As one moves down the hierarchy, the strength and size of the occupational coefficients changes from positive to negative (see Panel b, Table 7). Furthermore, with the exception of the top and bottom categories, the relationship is monotonic. However, the benefits gained from the learning opportunities that arise from everyday experience are spread more evenly across occupations. Only seven out of the 28 occupational coefficients are significant. Nevertheless, six of these are in the bottom two occupations – ‘Machine Operatives’ and ‘Elementary’ jobs – and they are negative. This suggests that these employees are significantly less likely to improve their work practice as a result of day-to-day interactions with colleagues, clients and the realities of the job since their tasks are tightly bounded and heavily prescribed.

5. CONCLUSION

Rhetorically speaking, we have come a long way from discussions centred on training to today’s discussions about lifelong learning and the creation of a learning society (OECD, 2003). However, these debates are poorly served by measures of learning which remain rooted in a tradition that sees learning as the acquisition of certificates, years spent in formal education, and attendance at training events (on or off-the-job). This paper highlights the contribution that the everyday experience of work can have in enhancing work performance through activities such as doing the job, being shown things, engaging in self-reflection and keeping one’s eyes and ears open. These activities are closely associated with the workplace and are captured by the learning as participation metaphor. The value of these activities as a means of making ‘significant changes in capability or understanding’ (Eraut, 1997: 556) is best measured by asking employees about their usefulness in helping them to do their job better.

The Learning at Work Survey, therefore, dispenses with questions about frequency of involvement or exposure times and focuses on the relative impact that a

range of different activities have on employees' own work performance. Similar self-assessment techniques have been applied to the study of skills used at work in preference to pure outcome measures such as qualifications and occupational rankings (Felstead *et al.*, 2002). Such an approach provides a more complete picture of learning at work since it offers both a process and product perspective. It is our hope that future European and national level surveys will take note by including a similar series of questions. The benefit for policy-makers is that they will have data on what makes a difference to performance at work. Already the research results presented in this paper suggest that the organisation of work is crucial in either promoting or hindering improvements in job effectiveness. However, these results need to be corroborated by larger and more extensive surveys in order to maximise their impact and point the way to policy solutions across Europe.

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**TABLE 1:
LEARNING SOURCES FOR IMPROVED JOB PERFORMANCE**

Source of Learning ¹	Percentage in Each Category					Helpfulness Rating ²
	A Great Deal of Help	Quite a Lot of Help	Of Some Help	A Little Help	Of No Help At all	
<i>(a) Learning as Acquisition</i>						
Training courses paid for by your employer or yourself	31.4	27.2	15.8	6.7	19.0	2.45
Drawing on the skills you picked up while studying for a qualification	25.8	26.3	16.1	9.7	22.1	2.24
Using skills and abilities acquired outside of work	19.0	29.4	24.2	9.8	17.6	2.22
Reading books, manuals and work-related magazines	21.4	25.3	19.4	10.5	23.5	2.10
Using the Internet	10.6	13.2	15.5	11.0	49.7	1.24
<i>(b) Learning as Participation</i>						
Doing your job on a regular basis	51.8	32.9	10.7	2.7	1.8	3.30
Being shown by others how to do certain activities or tasks	30.8	34.4	21.4	6.4	7.1	2.75
Reflecting on your performance	26.4	37.4	22.8	6.5	6.9	2.70
Watching and listening to others while they carry out their work	23.0	35.3	24.6	8.3	8.8	2.55
Using trial and error on the job	15.5	26.0	23.8	12.0	22.7	2.00

Notes:

1. This table is based on the responses given to the question: ‘To what extent have the following activities helped you *learn to do your job better*?’ At this point in the survey, respondents were asked to respond to each of the activities read out by the interviewer (listed in the left hand column of the table) by selecting the most appropriate response from the scale shown to them on a computer screen (shown here in the first row).

2. As a summary of the responses given, scores were allocated according to the helpfulness rating attached to each activity. A score of 4 was given to respondents who reported a factor as 'a great deal of help', 3 to 'quite a lot of help', 2 to 'of some help', 1 to 'a little help' and 0 to activities considered as 'of no help at all'.

Source: own calculations from Learning at Work Survey 2004.

**TABLE 2:
USEFULNESS OF SOURCES OF LEARNING BY OCCUPATION**

Source of Learning ¹	Managers & Senior Officials	Professionals	Associate Technical	Administrative & Secretarial	Skilled Trades	Personal	Sales & Customer Service	Machine Operatives	Elementary
	Helpfulness Rating ²								
<i>(a) Learning as Acquisition</i>									
Training courses paid for by your employer or yourself	2.89	2.93	3.28	2.42	2.45	2.74	2.05	1.72	1.71
Drawing on the skills you picked up while studying for a qualification	2.62	2.97	2.90	2.41	2.57	2.40	1.72	1.34	1.28
Using skills and abilities acquired outside of work	2.69	2.73	2.53	2.38	2.09	2.55	1.90	1.63	1.67
Reading books, manuals and work-related magazines	2.45	2.90	2.90	2.02	2.25	2.22	1.80	1.34	1.18
Using the Internet	1.79	2.19	1.97	1.75	0.92	0.76	0.92	0.42	0.41
<i>(b) Learning as Participation</i>									
Doing your job on a regular basis	3.49	3.53	3.54	3.29	3.34	3.28	3.21	3.15	2.96
Being shown by others how to do certain activities or tasks	2.53	2.83	3.12	2.80	2.84	2.75	2.91	2.51	2.52
Reflecting on your performance	2.97	3.11	3.08	2.71	2.66	2.79	2.58	2.29	2.20
Watching and listening to others while they carry out their work	2.73	2.63	2.84	2.52	2.74	2.73	2.59	2.20	2.09

Using trial and error on the job	1.94	2.21	1.98	1.98	1.92	2.02	2.04	1.99	1.92
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Notes:

1. See Note 1 in Table 1.
2. See Note 2 in Table 1.

Source: own calculations from Learning at Work Survey 2004.

**TABLE 3:
TYPES OF LEARNING BY OCCUPATION**

Occupation	Helpfulness Rating ¹	
	Learning as Acquisition	Learning as Participation
Managers & Senior Officials	2.49	2.73
Professionals	2.75	2.87
Associate Technical	2.73	2.91
<i>'Top 3 Occupations'</i>	2.67	2.85
Administrative & Secretarial	2.19	2.68
Skilled Trades	2.05	2.71
Personal Service	2.17	2.74
<i>'Middle 3 Occupations'</i>	2.14	2.70
Sales & Customer Service	1.69	2.70
Machine Operatives	1.29	2.43
Elementary	1.22	2.36
<i>'Bottom 3 Occupations'</i>	1.38	2.48
All	2.07	2.68

Notes:

1. In order to summarise the data further, the sources of learning are grouped according to two metaphors – acquisition and participation (see text). The table columns are labelled accordingly. They refer additive scales; each composed of five activities with scores ranging from 4 to 0 and divided by five to produce an average (as explained in Note 2, Table 1). By calculating the Cronbach alpha for each rating scale, the statistical reliability of grouping activities in this way was tested. Both scales performed reasonably well, indicating that the summary scores capture an underlying feature of the data although the learning as acquisition scale (0.79) did better than the participation scale (0.68) in this respect. A separate factor analysis was also carried out. This produced a two-factor solution that explained 51% of the variation between the ten variables and produced factor loadings interpretable using the two metaphors.

Source: own calculations from Learning at Work Survey 2004.

**TABLE 4:
LINE MANAGEMENT FACILITATION OF LEARNING AND DEVELOPMENT**

Source of Managerial Facilitation	Percentage in Each Category					Helpfulness Rating
	A Great Deal of Help	Quite a Lot of Help	Of Some Help	A Little Help	Of No Help At all	
Helping you learn to do your job better	20.8	28.2	23.3	13.7	14.0	2.28
Supporting you when you are under pressure	26.4	28.8	21.9	10.9	12.0	2.47
Recognising the extent of your abilities	27.1	35.2	20.1	8.7	8.9	2.63
Giving you advice on promotion	18.3	22.6	21.5	13.5	24.2	1.97

Notes:

1. Respondents were asked: 'How helpful is your supervisor or manager in [a number of situations]'. These included those listed in the left-hand column. Respondents were asked to choose one of five options listed on a screen shown as each situation was read out by the interviewer. The responses were: 'a great deal of help' (scored as 4); 'quite a lot of help' (scored as 3); 'of some help' (scored as 2); 'a little help' (scored as 1); and 'of no help at all' (scored as 0).
2. The scores were used to create a Helpfulness Rating shown in the right-hand column of the table.

Source: own calculations from Learning at Work Survey 2004.

**TABLE 5:
INFLUENCE EXERCISED AT WORK**

	Degree of Influence				Influence Rating ¹
	A Great Deal	A Fair Amount	Not Much	None at All	
<i>By Individual Over:</i> ²					
How hard you work	58.6	32.2	6.2	3.1	2.46
Deciding what tasks you are to do	40.1	37.4	14.2	8.3	2.09
Deciding how you are to do the task	50.4	38.3	7.3	4.0	2.35
Deciding the quality standards to which you work	49.8	34.6	10.6	5.1	2.28
Decisions that affect the way you do your job ³	19.7	42.5	25.5	12.3	1.70
<i>By Group Over:</i> ⁴					
How hard you work	22.0	35.3	15.1	27.6	1.51
Deciding what tasks you are to do	16.6	34.8	18.8	29.8	1.38
Deciding how you are to do the task	16.7	36.5	18.8	28.1	1.42
Deciding the quality standards to which you work	22.0	34.1	16.2	27.7	1.50

Notes:

1. This column provides a summary measure of the responses given with 3='a great deal', 2='a fair amount', 1='not much' and 0='none at all' or not applicable in the case of group influence (see Note 4 below).

2. Respondents were asked to indicate from a screen displaying the response options listed on in the top row of the table: 'How much influence *you personally* have on the following [job aspects]?' These aspects were read out one at a time and are spelt out in full in the left hand column of the table.

3. Respondents were asked: Suppose that there was going to be some decision made at your place of work that changed the way you do your job. How much say or chance to influence the decision do you think that you personally would have?' The response options (reproduced in the top row of the table) were displayed on a computer screen and respondents were asked to indicate the option that best applied to them.

4. Respondents were asked: 'In your daily work activities, are you part of a team of people who work together? Those answering 'yes', were asked to think about the team in which they spent most time and to indicate 'how much influence does the team have on the following [job aspects]?' The job aspects and response options were identical to those described in Note 2.

Source: own calculations from Learning at Work Survey 2004.

**TABLE 6:
INVOLVEMENT PRACTICES AT WORK**

Involvement Practices	Percentage of Respondents Reporting Practices
Management organised 'meetings where you are informed about what is happening in the organisation'	78.4
Management organised 'meetings in which you can express your views about what is happening in the organisation'	72.3
Suggestions made 'to the people you work with, or to your managers, about more efficient ways of working'	73.9
Systems of individual appraisal at workplace	66.0

Source: own calculations from Learning at Work Survey 2004.

**TABLE 7:
LEARNING METAPHORS IN THE CONTEXT OF WORK ORGANISATION**

	Learning Metaphors					
	Learning by Acquisition			Learning by Participation		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>(a) Organisation of Work Variables</i>						
Involvement & Influence at Work Rating ¹	0.5134*** (0.0412)	--	0.3717*** (0.0500)	0.3561*** (0.0335)	--	0.2638*** (0.0398)
Individual Influence Rating ²	--	0.2094*** (0.0364)	--	--	0.1310*** (0.0296)	--
Group Influence Rating ³	--	0.1117*** (0.0223)	--	--	0.1450*** (0.0182)	--
Involvement Practices Rating ⁴	--	0.4661*** (0.0657)	--	--	0.1243** (0.0537)	--
Line Management Facilitation Rating ⁵	--	--	0.1050*** (0.0223)	--	--	0.1241*** (0.0179)
<i>(b) Employment Characteristics</i>						
Managers & Senior Officials	0.2535** (0.1001)	0.2317** (0.1001)	0.1931* (0.1101)	-0.0633 (0.0815)	-0.0457 (0.0816)	-0.0871 (0.0876)
Professionals	0.6618*** (0.0931)	0.6296*** (0.0932)	0.5940*** (0.1008)	0.1160 (0.0758)	0.1401* (0.0760)	0.1174 (0.0802)
Associate Technical	0.6273*** (0.0915)	0.5889*** (0.0917)	0.5760*** (0.0974)	0.0937 (0.0749)	0.0984 (0.0751)	0.0788 (0.0776)
Administrative & Secretarial	0.1719** (0.0877)	0.1338 (0.0875)	0.1360 (0.0954)	-0.0707 (0.0714)	-0.0710 (0.0714)	-0.0953 (0.0758)
Personal Service	0.1346 (0.0951)	0.1240 (0.0945)	-0.0417 (0.1038)	0.0514 (0.0771)	0.0472 (0.0766)	-0.0056 (0.0825)
Sales & Customer Service	-0.2926*** (0.0950)	-0.3173*** (0.0944)	-0.3129*** (0.1012)	-0.0228 (0.0766)	-0.0248 (0.0763)	-0.0930 (0.0800)
Machine Operatives	-0.6841*** (0.0873)	-0.7001*** (0.0897)	-0.7443*** (0.0983)	-0.2336*** (0.0730)	-0.2505*** (0.0726)	-0.2112*** (0.0779)
Elementary	-0.6542*** (0.0873)	-0.6632*** (0.0864)	-0.6937*** (0.0951)	-0.2962*** (0.0700)	-0.2954*** (0.0694)	-0.3131*** (0.0779)
Female	-0.0682 (0.0548)	-0.0642 (0.0544)	-0.0281 (0.0585)	0.0264 (0.0444)	0.0404 (0.0441)	0.0145 (0.0465)
Full-time	-0.0567 (0.1293)	-0.0615 (0.1280)	0.0334 (0.1500)	0.0029 (0.1014)	-0.0052 (0.1006)	0.0677 (0.1174)
Female & Part-time	-0.1757 (0.1420)	-0.1801 (0.1406)	-0.0970 (0.1629)	-0.0207 (0.1122)	-0.0419 (0.1113)	0.0972 (0.1280)

<i>(c) Features of Model</i>						
Controls ⁶	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R Squared	0.3476	0.3468	0.3485	0.1499	0.1527	0.1725
Number of Observations	1619	1644	1345	1647	1673	1370

Notes:

1. This rating variable is derived from the five individual influence ratings (top half of Table 5), the four group influence ratings (bottom half of Table 5) and the four dummy variables that record the involvement practices used in the workplace (Table 6). Each of the 13 components are standardised with a mean of 0 and a standard deviation of 1 so that each has equal weighting in the overall Involvement and Influence at Work Rating variable used in the regressions reported in this table. The Cronbach's Alpha of the 13 components is 0.82 which suggests the additive scale captures a reasonable amount of component variation.

2. A Principal Components Analysis of the 13 components that make up the Involvement and Influence at Work Rating variable suggests that three factors account for 65% of the component variation. Each of these factors has an eigen value greater than one and they provide an interpretable solution. The Individual Influence Rating is an average score of the five individual influence ratings (top half of Table 5) and has Cronbach's Alpha of 0.81.

3. The Group Influence Rating is an average score of the four group influence ratings (bottom half of Table 6) and has Cronbach's Alpha of 0.89.

4. The Involvement Practices Rating is an average score of the four dummy variables that record the involvement practices used in the workplace (Table 6) and has Cronbach's Alpha of 0.72.

5. The scores for the four items were used to create an overall Line Management Facilitation Rating (see Table 4). This scaled well with a Cronbach's Alpha of 0.89 suggesting that the additive score captures an underlying feature of the data set exhibited by the variation among these four variables.

6. Controls include: three country dummies; one marriage dummy; age; and age squared.

Source: own calculations from Learning at Work Survey 2004.