

## **Learning through Work – Phase 2**

### **On-the-job Learning Methodologies Literature Review**

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# Executive summary

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The basic skills programme funded by the South East England Development Agency (SEEDA) has established learning partnerships in low paid workplaces within NHS Trusts across the South East. These partnerships have helped to develop literacy, language, numeracy and IT (LLNIT) skills within NHS workplaces and have provided an opportunity to explore how on-the-job LLNIT learning might widen participation in learning, support skills development amongst low-skilled employees and improve organisational performance.

In summer 2005, SEEDA commissioned a project, 'Learning through Work', to further explore these issues. During the first phase of the project a review of research and an audit of learning practices in workplaces in South East England was undertaken. This work enabled a number of recommendations to be advanced as to how on-the-job learning could be developed within the low-paid, low-skilled workplace. These suggestions were, however, made without reference to the theoretical and conceptual literature and empirical research evidence relating to on-the-job learning.

The next stage of Learning through Work will explore how the potential of on-the-job learning can be realised. This objective will be facilitated by developing, piloting and evaluating a range of on-the-job learning methodologies within a number of low-skilled workplaces in the South East. The design of the on-the-job learning models to be piloted will be informed by a literature review that will explore how on the job learning has been conceptualised. The review will also consider the strengths and weaknesses of different on-the-job learning methodologies and will make recommendations as to the forms of on-the-job learning most appropriate for inclusion in the piloting phase.

This summary and the accompanying report present the findings from this review.

## Conceptualising on-the-job learning

- The issue of defining learning is a complex one, since this can take a number of different forms, such as formal, non-formal, informal, incidental and accidental, which often overlap and support each other.
- Debates about the character of knowledge, which have accompanied those about the nature of learning, suggest this similarly has a number of different dimensions that overlap.
- On-the-job learning can be formal, non-formal or informal in character, although evidence suggests that informal on-the-job learning is the most significant route by which employees acquire and develop competence. This has led to suggestions that informal learning should be better supported and managed within the workplace.
- On-the-job learning facilitates transfer since it is applied *in situ* and at the appropriate time, is relevant to employee needs and the specific workplace context, is highly accessible, and thus addresses the socio-psychological

barriers to learning, as well as barriers relating to access to learning experienced by many low-skilled employees. It does not readily support theoretical or conceptual understanding.

- The effectiveness of on-the-job learning has not been widely considered by academic studies and it is seldom evaluated formally within the workplace itself. Yet a number of studies have pointed to a positive relationship between on-the-job learning and employee performance.

## Forms of on-the-job learning

- On-the-job learning can take a number of forms, many of which have both formal and informal variants. Each has strengths and weaknesses and is appropriate to different workplace settings:
  - *The transmission model* can be formal or informal and can draw upon pedagogical skill that is already available in the workplace to develop job specific skills. This model is less able to develop generic skill and can be undermined when 'experts' lack appropriate pedagogical skill. It is dependent upon 'experts' having the capacity to instruct others. This model is most appropriate in hierarchical organisations where job roles are clearly defined, in organisations where Fordist and Taylorist forms of work organisation are utilised and by companies requiring highly specialised skills
  - *Mentoring and coaching arrangements* can be formal or informal. These forms of learning are particularly useful with respect to employee socialisation since they can discourage inappropriate workplace practices and behaviours and can mitigate any negative aspects of workplace culture. The success of formal mentoring arrangements is, however, dependent upon appropriate pairings of mentor and protégé, whilst informal arrangements can result in the interests of the protégé being prioritised over those of the organisation. Mentoring and coaching arrangements are resource intensive and therefore best suited to large organisations.
  - *Direct guided learning* is formal and bears similarities to both the transmission model and mentoring. Indirect guided learning is non-formal, and resembles peripheral participation. In either form guided learning enables the 'novice' to develop competence at a comfortable pace and can mitigate any negative aspects of workplace culture. Although guided learning is dependent upon the 'expert' being able and willing to share their skills, it is not context specific and thus has wide application.
  - *Action learning* is an approach that focuses on problem solving and can be formal or non-formal. It enables the 'novice' to gain a broader insight into specific issues and a better understanding of organizational structure and politics, yet it is dependent upon the 'novice' being able to identify problems and may require facilitation. Action learning also focuses on action at the expense of theory, and learning outcomes are delimited by the problem solving opportunities available. It is most successful when organisational boundaries are not crossed.

- *Peripheral participation* is informal, and occurs naturally within the workplace. It enables employees to access the 'hidden curriculum' of the workplace, but learning outcomes are delimited by power structures within the workplace, the nature of the primary activity of the employee and the opportunities employees have for engaging in communities of practice. It is also largely beyond managerial control, and is thus most appropriate in non-hierarchical high trust organisations where employees enjoy a high level of autonomy.
- *Job rotation* is a formal approach to on-the-job skill formation facilitated by lateral transfers of employees between jobs within an organisation. Job rotation facilitates both organisational and individual learning and enables employees to access multiple communities of practice, although learning is delimited by the types of jobs that employees have the opportunity to undertake. This approach is best suited to organisations using team working.

## The workplace and on-the-job learning

- The research evidence suggests that the workplace environment can exert a significant influence on the capacity of employees to engage in on-the-job learning.
  - Organisations operating in high value added product markets on the basis of flexible specialisation and in highly competitive sectors are most likely to provide opportunities for employees to undertake on-the-job learning because they have adopted a competitive strategy based on skill rather than price.
  - Employee engagement in on-the-job learning is more likely in flatter, open, democratic organisations where employee involvement is encouraged than in hierarchical organisations where access to knowledge is strictly controlled.
  - Employees are more likely to have opportunities for on-the-job learning in organisations where learning is promoted, supported and rewarded than in those where this is not the case, or where workforce development is regarded as a cost rather than an investment.
  - Forms of work organisation based on team working, collaboration and employee autonomy are more likely to promote on-the job learning than those in which employees work alone, yet restructuring that embraced changes in work organisation can act as a catalyst for on-the-job learning because this generates new skills needs.
  - Employees engaged in jobs requiring high levels of skill, having significant levels of task variation and some degree of managerial responsibility have more opportunity for on-the-job learning than those engaged in routine, repetitive, undemanding roles.
  - Managers are able to promote on-the-job learning, by creating a workplace environment conducive to this and by mentoring inexperienced staff. Organizational factors, however, may limit the capacity of managers to facilitate employee learning.

- Performance management frameworks and reward systems have the capacity to encourage on-the-job learning.
- Trade Unions represent a significant resource upon which employers can draw to promote on-the-job learning.

## Models of workplace environments conducive to on-the-job learning

- A number of models of the learning conducive environment have been developed which vary in terms of the emphasis placed upon different organisational and workplace characteristics. The models do, however, embrace a number of common elements and thus provide a framework for building a workplace environment conducive to on-the-job learning.
- The models suggest that in an on-the-job learning conducive workplace:
  - Employees work in non-hierarchical teams performing multiple tasks.
  - Employees have some discretion over how they undertake work.
  - Employees are able to engage in a professional capacity with others beyond the work group, beyond the workplace and beyond the organisation.
  - Employees have opportunities to develop new skills and have 'space' for learning.
  - Skills and knowledge are widely distributed, are valued at all levels of the organisation and access to skills and knowledge is not controlled.
  - Managers support and facilitate learning.
  - Competence development is rewarded through more stimulating work, opportunities for career development or increased remuneration.

## Conclusions and recommendations

- Many on-the-job learning methodologies have both formal and informal variations, and an understanding of this is of use in making recommendations for the next stage of the *Learning through Work* project.
- Very little literature specifically considers the role of on-the-job learning in relation to the development of LLNIT skills. Yet literature of a more general nature clearly indicates that this has a number of key strengths that could be utilised in order to advance LLNIT learning within the low paid, low skills sector, although the role of formal off-the-job learning in relation to LLNIT skills development should not be overlooked.
- An examination of six specific forms of on-the-job learning designed to gauge their suitability for pilot in the next stage of the *Learning through Work* project revealed that all have both strengths and weaknesses, and most are more appropriate to some contexts than others.
- Four methodologies - the transmission model; mentoring/coaching; guided learning and job rotation - were considered to have some potential for application within the low-paid, low-skilled workplace, but of these, guided

learning would seem to offer the greatest scope for developing LLNIT skills amongst employees engaged within the low-paid, low-skilled sector, as this methodology is widely applicable, and can thus accommodate the highly heterogeneous nature of the low paid, low-skilled workplace. It also enables learners to progress at their own pace; an important consideration given that employees engaged in the low-paid, low-skilled sector commonly have little experience of post-compulsory education and training.

- Guided learning has both formal and informal variations. We recommend that guided learning in its formal guise, that is direct guidance, is piloted during the next stage of the Learning through Work project, because formal learning is easier to observe and thus evaluate.
- We suggest that direct guided learning is utilised in order to enable low paid, low-skilled employees achieve a number of pre-determined, specific LLNIT learning objectives, which would directly improve their performance within the workplace and therefore that of their organisations also.
- Given the heterogeneous nature both of the low-paid, low-skilled sector, and of the roles undertaken by low-paid, low skilled employees within the sector, the LLNIT learning objectives should be determined within each individual workplace participating within the pilots; and should reflect the LLNIT skills that were by required by low-paid, low-skilled employees within the team to most effectively undertake their role.
- The effectiveness of direct guided learning as an on-the-job learning methodology could be assessed by monitoring the progress of low-paid, low-skilled employees towards the achievement of these objectives. Progress could be measured against a baseline assessment of employees' existing LLNIT skills conducted prior to the introduction of direct guided learning.
- The pilots of direct guided learning should be framed by an appreciation of the specific environmental factors impacting upon the ability of employees to undertake on-the-job learning within each workplace.
- In the medium term activities designed to convince employers operating within the low-paid, low skilled sector of the benefits of increasing the LLNIT skills of employees should be considered.
- In the longer term, activities should be considered to promote the adoption of operational and human resource management practices designed to encourage learning through work. Given that learning conducive workplace environments are more likely to emerge in organizations whose competitive strategy is based on the high performance, high skills model, activities designed to encourage employers operating in the low-paid, low-skilled sector to move towards this model should be considered.

# 1. Introduction

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## 1.1 Background to the project

According to Newton et al (2006a) the population of south east England is more highly qualified than the UK as a whole, yet the educational attainment of significant numbers of people is nonetheless characterised by under-achievement, with many likely to have LLNIT (Literacy, Language, Numeracy and IT) skills needs. Low-skilled employees in the south east are more likely than those with high levels of educational attainment to work in low-paid occupations, with low-paid workplaces being largely characterised by low-road competitive strategies that are premised upon neo-Taylorist forms of work organisation that afford little autonomy to staff and few opportunities for learning, development or career progression.

LLNIT skills are becoming increasingly important within the low-paid low-skilled workplace, but employers within this sector do not always appreciate the value of developing such skills amongst low-paid, low-skilled employees. This is because there is little evidence to show how LLNIT skills (or the lack of them) impact upon employee performance, or the performance of the organisation as a whole. Employers within this sector also have difficulties in recognising and identifying LLNIT skills needs within their workforces, and little capacity to release employees for off-the-job training. In such circumstances on-the-job learning would appear to offer significant potential for the development of LLNIT skills relevant to the low-paid, low-skilled workplace.

The basic skills programme funded by The South East England Development Agency (SEEDA) established learning partnerships in low paid workplaces within NHS Trusts across the South East. These partnerships have helped to develop LLNIT skills amongst employees working in the health sector and have provided an opportunity to explore how on-the-job LLNIT learning might widen participation in learning, support skills development amongst low-skilled employees and improve organisational performance.

In summer 2005, SEEDA commissioned a project, 'Learning through Work', to further explore these issues. The overall objective of Learning through Work is to evaluate the potential of on-the-job learning as a mechanism for skills development in sectors of the economy characterised by low-skilled, low-paid work. The specific focus of the project relates to whether on-the-job learning is an effective mechanism for the development of LLNIT skills; skills which are central to the ability of employees to communicate effectively and process information. Yet the project has also been designed to explore how public funding might most cost-effectively be utilised to promote on-the-job LLNIT learning for those employed in low-skilled low-paid occupations.

The first phase of the Learning through Work project scoped these questions through a research review and an audit of learning practices in workplaces in South East England. The findings of Phase 1 were that:

- Employers often articulated the LLNIT skills cluster in terms of communications skills or customer care skills
- There was widespread recognition of the need to develop LLNIT skills within the workplace
- The development of LLNIT skills was seldom embedded within organizational policy or strategy, and was infrequently linked to broader Human Resource Management (HRM) and performance management frameworks
- On-the-job learning may have a role to play in the development of LLNIT skills.

The reports produced for the Phase 1 of the Learning through Work project advanced a number of suggestions as to how on-the-job learning could be developed within the low-paid, low-skilled workplace. These suggestions were, however, made without reference to the theoretical and conceptual literature and empirical research evidence relating to on-the-job learning.

The next stage of Learning through Work will explore how the potential of on-the-job learning can be realised. This objective will be facilitated by developing, piloting and evaluating a range of on-the-job learning methodologies within a number of low-skilled workplaces in the South East. The design of the on-the-job learning models to be piloted will be informed by a literature review that will explore how on the job learning has been conceptualised. The review will also consider the strengths and weaknesses of different on-the-job learning methodologies and will make recommendations as to the forms of on-the-job learning most appropriate for inclusion in the piloting phase.

## 1.2 Aims and methodology

### 1.2.1 Aims

This review was conducted in order to advance the second phase of the *Learning through Work* project. The aim was to undertake a review of the relevant theoretical, conceptual and empirical research to ascertain what is already known about on-the-job learning.

Specifically, the review was designed to consider the following questions:

- How is on-the-job learning conceptualised?

- What forms of on-the-job learning exist, what are the strengths and weaknesses of each, and what factors influence which form is adopted?
- What are the barriers to the implementation of the forms of on-the-job learning that have been identified?
- In what circumstances is on-the-job learning undertaken?
- How is on-the-job learning organised and managed?
- What are the intended and actual outcomes of on-the-job learning?
- How can the effectiveness of on-the-job learning be evaluated?
- What other forces shape on-the-job learning?

Where appropriate each of the above was considered at the level of:

- The individual employee
- The work team
- The organization

The purpose of the review was to provide evidence that would facilitate the achievements of the larger aims of Phase 2 of Learning through Work, since it would inform the development of on-the-job learning models to be piloted within the low-skilled low-paid workplace.

### 1.2.2 Methodology

Four approaches were utilised to generate a preliminary body of material for inclusion in the literature review for the second stage of the Learning through Work project.

First, the University of Leeds library catalogue was searched for material in book format that had explored questions relating to the conceptualisation and efficacy of workplace learning.

Second, appropriate electronic databases such as the International Bibliography of the Social Sciences (IBSS) and The British Education Index (BREI) were searched in order to identify relevant journal articles.

Third, the websites of stakeholder organizations with an interest in on-the-job learning were consulted, such as: the Department for Education and Skills (DfES); the Department for Trade and Industry (DTI); the Learning and Skills Network (LSN); the Chartered Institute for Professional Development (CIPD); the National Institute of Adult Continuing Education (NIACE); and the European Centre for the Development of Vocational Training (CEDEFOP).

Fourth, previous research conducted by CERIC personnel, including the reports of the Making Learning Work project co-ordinated by the Campaign for Learning were consulted.

The material generated by these searches was then sifted for relevance, and those pertinent to the aims and objectives of the Learning through Work project were included within the review.

In addition to the literature relating to workplace learning, the review also embraced the relevant management and employment relations literature that illuminated how the workplace environment impacted upon learning.

### 1.3 Structure of the review

The next section of this review considers how on-the-job learning has been conceptualised, and how this relates to conceptualisations of knowledge and expertise. It examines the strengths and weaknesses of on-the-job learning before considering whether it is possible or desirable to attempt to capture non-formal and informal learning. Finally, this section explores issues around evaluating on-the-job learning.

Section three considers the strengths and weaknesses of six specific forms of on the job learning, and considers the capacity of each to deliver LLNIT skills, and thus their appropriateness for trial during the next stage of the Learning through Work project. Section four examines a number of aspects of the workplace environment and assesses how these influence on-the-job learning. Section five presents a number of models of a learning conducive workplace environment.

Section six presents the conclusions of the review, and recommendations for the next stage of the Learning through Work project. A full bibliography is presented in section seven.

## 2. Conceptualising on-the-job learning

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According to Boud and Garrick (1999) ideas about learning are changing. Technological developments, the rise of the global economy and the emergence of 'knowledge work' have resulted not only in unprecedented demands for learning and knowledge, but also in a shift away from the view in which educational institutions were regarded as the principle locus of learning, towards a perspective in which the role of the workplace as a site of learning is increasingly acknowledged. Yet despite the increasing significance of learning, as Colardyn and Bjornavold (2005: 20) have correctly pointed out: "The issue of defining learning... is a complex one".

The CEDFOP<sup>1</sup> glossary (Tissot, 2000; 2004) differentiates between three forms of learning, on the basis of the extent to which activities are explicitly planned or structured to facilitate this. Thus:

- Formal learning is that which occurs within an organised and structured context, is designed as learning, and may lead to formal recognition or accreditation;
- Non-formal learning is that which is embedded in planned activities that are not explicitly designed as learning, but which contain an important learning element;
- Informal learning is that which results from daily life activities relating to work, the domestic arena or leisure. It is sometimes referred to as experiential learning and can to some extent be understood as learning that is accidental.

The European Commission's communication on lifelong learning (European Commission, 2001) similarly differentiates between three forms of learning, again described as formal, non-formal and informal, although here more emphasis is placed on the locus of learning, learning outcomes and the extent to which the learner intends to develop new knowledge and competences. Thus:

- Formal learning, which is typically provided by education or training institutions, has structured objectives, learning time and learner support mechanisms, and leads to certification. Formal learning is intentional from the learner's perspective;
- Non-formal learning is not provided by an education or training institution, and is not normally certified, though it is structured in terms of learning

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<sup>1</sup> European Centre for the Development of Vocational Training.

objectives, learning time and support. Non-formal learning is also intentional from the learner's perspective.

- Informal learning is generated by daily life activities relating to work, the family or leisure, is not structured and does not lead to certification. Informal learning may be intentional, but in the majority of cases it is not.

In highlighting the importance of context, structure and the intention to learn, both these definitions indicate that on-the-job learning may be formal, non-formal or informal in character. Indeed, according to Colardyn and Bjornavold (2005) there is no absolute border between formal, non-formal and informal learning in any context, as these categories often overlap.

This point is elaborated by Unwin and Fuller (2003) specifically with respect to on-the-job learning. With an example of a woman learning how to ice wedding cakes in a Manchester factory by secretly watching her supervisor, and then honing her newly acquired skills in the domestic arena, they demonstrate that attempting to categorise on-the-job learning is a problematic endeavour, since not only is there a significant level of cross-over between the characteristics of formal and informal learning within the workplace, such forms of learning often take place simultaneously, and frequently support each other. Their example also demonstrates that on-the-job learning can be augmented and buttressed by learning that takes place away from the workplace.

*As a 16 year old bakery assistant in Manchester in the 1930s the mother of one of the authors learned how to apply the most elaborate and fine filigree icing to wedding cakes by watching her boss. This was not the well known approach of 'sitting by Nellie' as my Mother was not an apprentice. Her 'secret watching', as she called it, had to be done when she went about her own more lowly duties such as preparing chocolate icing for the éclairs, washing up and rolling macaroons in coconut. She memorised her boss's skills and practiced them at home on friends and family. This expertise enabled her to supplement a meagre wage by earning valuable extra money in her spare time. Was this learning 'formal', 'informal', 'tacit', or 'non-formal'? It was certainly 'planned' and 'intentional', two characteristics not often associated with the 'informal'. Yet it was also 'tacit' in that she found it very difficult to explain to her daughter how to estimate the consistency of the icing to ensure the right balance of delicacy and strength. It combined artistry with manual skill (beating large quantities of sugar and egg white without electric tools is a tiring process) and vocational knowledge (e.g. add glycerine to stop the icing becoming like concrete). It was situated and experiential, and progressed through much trial and error. Her experience is typical of so many people who are restricted to carrying out certain functions in the workplace and whose potential is never exposed or recognised.*

Clarke (2005) similarly highlights the lack of clarity in relation to what is meant by on-the-job learning. This, he suggests, is often embraced within the broader term 'workplace learning', which itself also embraces categories such as planned and

unplanned learning, formal and informal, non-formal and incidental learning and off-the-job learning.

Eraut et al (1998) consider the nature of on-the-job learning explicitly, and make a useful distinction between three forms of this:

- Firstly, learning that involves organised support. This embraces activities such as mentoring, coaching, rotation and shadowing, but though formal and structured, such learning is not necessarily arranged in an official way, and knowledge of it is often confined to the immediate work unit.
- Secondly, learning that involves consultation and collaboration within the working group. This embraces normal interactions within the workgroup that lead to the sharing of knowledge and the development of skill and expertise.
- Thirdly, learning from people beyond the working group. Normal workplace interactions again form the basis for the sharing of knowledge and the development of expertise, but here learning involves others located within the broader organization, within associated professional networks and amongst suppliers and customers.

In Eraut et al's model on-the-job learning is again regarded as having both formal and informal dimensions, but informal learning is conceptualised as having two distinct loci.

Marsick and Watkins' (1990), in contrast to Eraut et al, differentiate between informal learning, and incidental learning. They suggest both forms of learning take place in non-routine on-the-job situations, but though interconnected are not exactly the same, since incidental learning is a subdivision of informal learning. Incidental learning occurs as by-product of some other every day activity within the workplace, and because of this can never be intentional or planned. On-the-job incidental learning is therefore manifest in employees learning from experience, learning from mistakes, and successes; learning by doing, including through trial and error experimentation; and in covert interpersonal experiments. Informal learning by contrast though also arising from every day activities, such as those occurring in the workplace can be both intentional and planned.

Garrick (1999) echoes Marsick and Watkins in his call for the conceptualisation of some forms of on-the-job learning as 'accidental', since he suggests that learning can take place spontaneously, with fruitful or transformative understanding being developed without deliberation or intention as a result of the unexpected.

The key characteristics of the various forms of learning are summarised in Table 1 below.

**Table 1: Key characteristics of different forms of learning as identified in the literature**

<b>Form of learning</b>	<b>Locus of learning</b>	<b>Learning structured or unstructured</b>	<b>Learning intentional or unintentional</b>	<b>Learning accredited or unaccredited</b>
Formal	Educational institution or training centre or on-the-job	Structured	Intentional	Either accredited or unaccredited
Non-formal	Everyday situations	Structured	Intentional	Unaccredited
Informal	Everyday situations	Unstructured	Intentional	Unaccredited
Incidental/Accidental	Everyday situations	Unstructured	Unintentional	Unaccredited

## 2.1 Conceptualising knowledge and expertise

Clarke (2004) has pointed out that debates concerning the nature of learning within the workplace have been accompanied by discussions relating to the nature of workplace knowledge and expertise. Citing Brookfield (1992), Megginson (1996) and Rigarno and Edwards (1998), he suggests that other writers have usefully distinguished between two forms of knowledge within the workplace: explicit knowledge, which is codified and formally transmitted between employees and within organizations; and tacit knowledge, which is not codified, but is instead deeply ingrained in the practices of particular social and cultural contexts within organizations.

Evans (2002) and Evans and Rainbird (2002) suggest that the significance of tacit knowledge within the workplace, and the potential for this to positively influence workplace performance is well recognised but poorly understood. In line with the growing interest in informal learning, increasing attention is now being focussed on developing an understanding of how tacit knowledge can be converted into explicit knowledge, so that which is hidden may be released and utilised for the benefit of organizations. Indeed, such concerns have emerged as a key policy issue within the EU, where the codification of tacit knowledge is seen as having the potential not only to improve organizational performance, but also to facilitate labour mobility, thus enabling organizations to draw upon a larger pool of labour (see for example Bjornavold, 2000).

Eraut (2000) suggests that there is no single definition of what tacit knowledge is, but cites Polanyi (1967) who defined this as "that which we know but cannot tell".

Neuweg (2004) proposes a three-tier conceptualisation of tacit knowledge:

- *Tacit knowing how*: is the ability to judge or act without rules or reference points. When tacit knowing how is being demonstrated the expert will often speak of something 'being' or 'feeling' right.
- *Tacit knowing that*: is knowledge that is ingrained and taken for granted. It is based on the cognitive background, interpretive frameworks, viewpoints, paradigms and beliefs of the expert, and may in some circumstances be described as common sense.
- *The tacit roots of explicit knowledge*: are the uncodified conceptual understanding that enable explicit knowledge to be interpreted and given meaning.

He suggests that it is not possible to quantify the significance of tacit knowledge within the workplace, as there is no way of measuring this. Equally problematically, he contends that little knowledge is purely tacit, for it may be shared between employees and within organizations, even though it is not codified. Indeed following this, Neuweg argues that the difference between theoretical and experiential knowledge has been over-emphasised by some writers, and suggests that theoretical and experiential learning may both be enhanced if linked in a parallel relationship, since in most cases learning involves some oscillation between processes that are controlled and analytical and those which are spontaneous and unplanned. Evans (2002) similarly argues that knowledge has both tacit and explicit dimensions, and that facilitating the communication of tacit knowledge would enable this to be codified. This would in turn lubricate the process of knowledge transfer between employees.

Most significantly in the context of this review, Neuweg (2004) suggests that tacit knowledge has to be learned implicitly, and within the context of the workplace this suggestion implies a significant role for learning that is informal and on-the-job. Citing Polanyi (1962: 53), Neuweg (2004) thus suggests that tacit knowledge is developed through a process of learning by doing in which the novice is guided by an expert:

"By watching the master and emulating his efforts in the presence of his example, the apprentice unconsciously picks up the rules of the art; including those which are not explicitly known to the master himself".

Using the simple example of how a person learns to ride a bicycle, however, Eraut (2000) suggests that tacit knowledge can arise from explicit learning, since many people who have accomplished this are nonetheless unable to explain the technical details of the skill they have developed.

These conceptualisations of knowledge are valuable since they demonstrate that expertise in the workplace, like learning, has a number of different dimensions that overlap, and can buttress each other. Yet against this backdrop Engstrom et al (1995) suggest that a broader multi-dimensional view of the locus of expertise is necessary to understand the development and acquisition of knowledge in the context of an increasing emphasis being placed upon problem-solving within the workplace. They argue that the traditional perspective of expertise has commonly

regarded this as a 'vertical' phenomenon, with knowledge being passed within organizations in a top-down manner, leading, in some cases, to a 'professional monopoly' on expertise. Whilst the vertical dimension remains important, a horizontal dimension is becoming increasingly relevant in situations of 'polycontextuality', that is, where employees are engaged in multiple on-going tasks, since here employees have to move across organizational boundaries in order to seek and give help, and find information in order to solve problems. In this context, informal on-the-job learning is invaluable. Yet according to Boreham (2002) and Huys and Hootgem (2002) uni-directional views of expertise remain resilient, particularly within organizations operating along Fordist or Taylorist lines; this despite exhortations from external bodies including governments for them to embrace change.

## 2.2 The strengths and weaknesses of on-the-job learning

Ashton (1998) suggests that formal off-the-job learning is most appropriate in developing specific skills in organizations where roles are clearly specified and circumscribed, and where each employee occupies a position within a clearly defined hierarchy of authority. This approach has, however, been increasingly challenged by organizational restructuring, and the trend towards flatter organizations in which authority is devolved and the responsibilities of employees broadened. Such developments have necessitated the development of new skills, especially in areas such as problem solving, team working and management, which cannot be readily acquired from the discontinuous learning episodes characteristic of the formal off-the-job training course.

Whilst not seeking to devalue off-the-job learning, Marsick and Watkins (1990) also suggest that many activities commonly described under the umbrella of training and development impart the skills and knowledge deemed by the organization to be those that employees need to master. Yet this may not reflect the reality of the workplace, and the learning needs of employees may not therefore be met in full. Furthermore, because off-the-job learning activities are divorced from the workplace context, employees may find difficulty in applying the skills and knowledge that they have learned when they return to the workplace: the problem of training transfer. On-the-job learning, Marsick and Watkins suggest, enables such issues to be addressed, and also takes place at the appropriate time i.e. at the actual point where employees need to apply new skills and knowledge rather than before this. This is significant especially given research that has revealed that difficulties relating to training transfer stem not only from employees having few opportunities to apply their training within the workplace context, but also that off-the-job learning is often ill-timed and the learning is consequently forgotten before employees are in a position to apply this (Santos and Stuart, 2003; Wallis and Stuart, 2005).

Against this backdrop there is now a substantial research base suggesting that informal on-the-job learning is the most significant route by which employees acquire and develop the skills and competences required for effective performance within the workplace (See for example Ashton, 1998; Boud and Garrick, 1999; Eraut et al, 1998; Skule et al 2002; Skule and Reichborn, 2002). Whilst it is

acknowledged that the actual extent of informal learning within the workplace is difficult to quantify, Wallis's (2005) study of approaches designed to raise demand for learning in nine large organizations employing primarily low-skilled workers nevertheless suggests that this is extremely widespread. The survey of over 2,600 employees undertaken as part of Wallis's study revealed that 84 per cent had learned work related techniques and procedures from a colleague, whilst 90 per cent had shown a colleague how to undertake tasks.

Such findings are particularly pertinent in relation to the low-paid, low skilled workforce. Wallis's study, in common with a number of others (e.g. Blundell, 1999; Parsons and Bynner, 1998) indicates that low-skilled employees frequently have fewer opportunities to undertake off-the-job learning than their more highly skilled counterparts, with Ashton and Green (1996) suggesting that this situation reflects a common assumption on the part of employers that low-skilled workers are likely to be less receptive to off-the-job training, because they lack the ability to learn effectively. Furthermore, as Newton et al (2006a) point out, LLNIT skills development seldom receives explicit priority in organisations employing significant numbers of low-paid low-skilled staff. This is despite the fact that many such organisations are located in the public sector and are, therefore, at the forefront of government initiatives designed to improve skills for life.

According to Doyle and Hughes (2004), on-the-job informal learning is especially important within SMEs because lack of time, and budgetary and personnel related constraints mean that employees are much less likely than those in larger ones to have the opportunity to be released for formal off-the-job learning. Furthermore, SMEs not only have smaller numbers of employees, but often trade in highly competitive markets with tight operating margins and are thus able to dedicate little time to planning. Because of this, SMEs are less likely than larger organizations to be able to devote resources to a dedicated Human Resource Development or Training function providing in-house off-the-job learning opportunities for employees.

Doyle and Hughes also point out that informal on-the-job learning is especially valuable for SMEs because they occupy increasingly specialist markets and thus have a need for highly specific skills rather than generic skills. Formal off-the-job routes, they argue have less capacity to develop such skills. Relatedly, Lans et al's (2004) research in the Dutch agri-food sector illustrates that informal on-the-job learning plays an especially important role in the development of entrepreneurial competences because the skills needed by entrepreneurs (i.e. creativity, courage, risk taking, strategic orientation, conflict management, network management and the ability to reflect on success and failure) are less likely to be developed through formal off-the-job routes since these are generally based upon courses that draw upon the framework provided by a single discipline. Informal on-the-job learning is therefore more relevant to the needs of entrepreneurs, and organizations that rely on entrepreneurial skill, and generates positive learning outcomes in less time.

Barber's (2004) study of the Indian auto repair sector similarly demonstrates that on-the-job informal learning has the capacity to develop skills and competences that are highly appropriate to the workplace context: in this case workplaces that were characterised by being poorly resourced in terms of tools and equipment, as here, employees learned through informal routes to develop solutions to problems

within the constraints of the resources available to small businesses in the sector. Barber also contends that on-the-job informal learning is an especially useful mechanism to facilitate skill formation amongst employees with low levels of education, since there are no entry requirements for informal learning, participation being dependent neither upon qualifications, nor membership of particular socio-economic groups. On-the-job informal learning then has a potential role to play in addressing equal opportunities issues as they relate to learning.

Barber's second point is elaborated by Illeris (2006), who contends that informal on-the-job learning is more appropriate for low-skilled employees than formal off-the-job approaches, because such workers are often resistant to forms of learning that remind them of their schooling. Illeris suggests that there is therefore a need for special initiatives such as project work and action learning, which involve low-skilled workers in forms of learning that are more appropriate to their needs than classroom-based learning.

Fuller and Unwin (2004), however, caution against an over-reliance on informal on-the-job learning, since this approach limits the scope that employees have for learning through reflection. They also argue that formal learning is a necessary building block, providing employees with the theoretical knowledge and conceptual tools that enable them to work effectively in environments that are increasingly demanding intellectual capacity as well as the confidence to cross disciplinary and skill boundaries. Informal learning, they suggest, has less capacity to deliver the conceptual and theoretical understanding that facilitates such behaviours.

Against this backdrop, Wallis (2005) found a large reservoir of unmet demand amongst low-skilled employees for job-related learning of a more theoretical and conceptual nature that was not, and could not be addressed through informal routes. Indeed employees unable to access what they often perceived to be more advanced learning opportunities through formal routes commonly reported low levels of job satisfaction and motivation. This was often related to a perception that they had been prevented from developing the competence necessary for effective performance in the workplace. Rainbird and Munro's (2003) study of low-skilled public sector workers found similar evidence of demand for formal workplace learning, with employees unable to access this reporting their frustration with the limitations this placed upon them, the detrimental affect this had on their confidence in their abilities, and in turn, their restricted capacity to contribute to the services they provided. Newton et al's (2006a) audit of learning practices within low-skilled workplaces in south-east England also found evidence of demand for training in LLNIT skills amongst low-skilled employees, with most demand being related to communication skills. This reflected, to a large extent, perceptions amongst low-paid, low-skilled employees that the skills requirements for their role had increased, and that they had a greater role in decision making.

Marsick and Watkins' (1990) suggest that both informal and incidental learning is delimited by a number of factors, though they note that formal on-the-job learning is equally proscribed, because the instructor, or organization decides which skills and knowledge employees need to master (irrespective of the fact that this may, or may not reflect the actual learning needs of employees). Most obviously, the nature of the primary work activity being undertaken will limit the opportunities for incidental learning, which is, as a consequence, highly specific to the job. Yet the

way in which an employee frames a problem they are seeking to address through learning can also delimit learning during informal episodes if the focus is solely on the task in hand, rather than embraced within a broader vision that includes aspects of the context in which the problem rests. In the latter case, employees open themselves up to a broader learning experience than in the former. The way in which problems are framed by employees can also reflect the way the problem is perceived, and thus the outcomes of informal learning; as can the cognitive ability of employees. Factors facilitating informal learning, according to Marsick and Watkins, include employee proactivity and creative reflection.

According to Fuller and Unwin (2004), informal on-the-job learning is often beyond managerial control, and individual employees are therefore able to exercise choice over the extent to which they engage in informal learning within the workplace, with their approach to this being shaped to some extent by their 'learning territory', that is, their personal backgrounds, prior experiences of learning, attitudes and broader aspirations.

A number of other commentators have also highlighted the significance of employee attitudes and motivations on both the willingness of employees to participate in informal on-the-job learning and learning outcomes. Ellstrom (2001) for instance, suggests that different employees performing the same task or job with the same learning potential will experience different learning outcomes as a result of their 'personal learning readiness', whilst Van Woerkom et al (2003) argue that because informal on-the-job learning and work are inseparable, employees' motivation to learn on-the-job often mirrors their motivation to work. Employee disposition, or a willingness to embrace flexibility, is therefore more important in relation to whether or not employees developed flexible competence, which they defined as the capacity of employees to adapt and develop new skills and ways of working in order to meet the demands of changing job roles, than their participation in on-the-job learning. Van Woerkom et al's case studies in banking, manufacturing and service sector organizations nevertheless revealed that flexible competence could be acquired through informal on-the-job learning, most often through processes of critical reflection in which employees questioned both their own way of working and the way work was organised, learned from their mistakes, shared their visions and views, challenged the prevailing thinking within their workgroup, requested feedback and experimented with new ideas.

Lange et al (2000) suggest that employees in SMEs in particular may be unwilling to engage in informal on-the-job learning if they are unconvinced of the benefits of this, or perceive that this would generate new responsibilities for which they would not be rewarded.

Billett (1996) has highlighted that informal on-the-job learning can result in undesirable outcomes, including the endorsement of shortcuts, which may undermine health and safety standards in particular, inappropriate behaviours, restrictive practices and incomplete understanding. Billett (1999) therefore suggests that constant managerial vigilance is required to ensure that on-the-job learning does not result in outcomes that are not desired by the organization.

On-the-job learning clearly has both strengths and weaknesses, then, which are summarised in Table 2 below. This form of learning is also more appropriate in

some context than others. On-the-job learning has the capacity to develop specific, context-based skills and knowledge that is relevant to the employee at the point when such competence is required, but is less effective in developing theoretical and conceptual knowledge and some types of generic skill. Yet on-the-job learning is also highly accessible, and facilitates widespread participation in learning activities within the workplace. As such, as Newton et al (2006a) point out, it may be especially useful in developing the basic information processing and communication skills that are key to effective performance in many low-skilled low-paid workplaces. It is, however, important not to lose sight of the fact that informal on-the-job-learning is often beyond the control of management, and is highly dependent upon employees being motivated not just to learn, but to learn things that will be of benefit to their organizations.

**Table 2: The strengths and weaknesses of on-the-job learning as identified in the literature**

<b>Strengths</b>	<b>Weaknesses</b>	<b>Able to deliver</b>	<b>Most appropriate setting</b>
<ul style="list-style-type: none"> <li>• <i>Fewer problems relating to transfer of learning, since learning is applied in situ</i></li> <li>• <i>Relevant to employee needs and the specific workplace context</i></li> <li>• <i>Takes place at the appropriate time.</i></li> <li>• <i>Addresses socio-psychological barriers to formal learning experienced by many employees in low-skilled low-paid jobs</i></li> <li>• <i>Addresses equal opportunities issues – employees unable to access off-the-job learning can engage in on-the-job learning</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Does not readily promote theoretical or conceptual understanding (at least not in a codified form)</i></li> <li>• <i>Can result in the endorsement of bad practice</i></li> <li>• <i>Many forms of informal on-the-job learning are beyond managerial control</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Problem solving skills</i></li> <li>• <i>Team working skills</i></li> <li>• <i>Highly specialised job-related skills</i></li> <li>• <i>Entrepreneurial skills</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Organizations with flatter hierarchies</i></li> <li>• <i>SMEs</i></li> </ul>

## 2.3 Capturing non-formal and informal learning?

The increasing acknowledgement of the significance of non-formal and informal learning within the workplace has led many academic researchers to suggest that this needs to be better supported and managed. Some organizations are also beginning to explore the potential of informal learning in recognition that this is the most pervasive form of learning and skill formation, yet Woodall (2000) suggests that though recognition of the importance of informal learning was increasing, there was a limited awareness on the part of managers and HR specialists of the range of informal learning methodologies that could be utilised within the workplace. She also suggests there is little evidence that informal learning is being systematically promoted, because of a widespread perception that informal learning would 'happen' automatically and without intervention. This point is echoed by Ashton (1998) who found that informal learning was regarded in many firms as an unproblematic process that occurred naturally and therefore required no special consideration or support.

Yet attempts to formalise informal learning clearly face a number of practical difficulties that relate to the fact that accidental and incidental forms of informal learning are, by their very nature, implicit and unplanned. Macneil (2001) therefore suggests that such learning cannot be explicitly designed.

Wallis and Stuart's (2005) study of nine large organizations employing primarily low-skilled workers did identify a tendency for line managers to attempt formalise informal on-the-job learning in order to address their limited capacity to release employees for off-the-job learning. In this manner, employees that could be released for off-the-job learning were expected to impart the messages of their learning to their colleagues on their return to the workplace. Line managers were, however, often unaware of the content of off-the-job training courses and whether such learning episodes were appropriate for employee needs. These questions aside, the success of such an approach is clearly dependent upon a number of factors. Firstly, those employees attending off-the-job learning need to have absorbed the messages of that learning in a complete and undiluted form. Secondly, they must then be willing to share that learning with colleagues in the workplace. Thirdly, they must have the skills to pass on that learning without distortion. Significantly, senior managers within the organizations studied by Wallis and Stuart were more ambivalent about the utility of non-formal and informal on-the-job learning than line managers, largely because these forms of learning were regarded as being beyond managerial control.

According to Doyle and Hughes (2004), attempts to formalise non-formal and informal learning could have negative consequences in that it could reduce organizations' ownership and control over the learning process. In this context, they argue that the current emphasis on credentialisation as the primary outcome of workforce development is unhelpful, since this could lead firstly, to a dependency culture in which employers expect a discounted or free service from publicly funded off-the-job providers, which would undermine on-the-job learning. Secondly, this has the potential to generate a mismatch between the learning that is required by organizations and employees and the learning needs of the qualification. This second point is further elaborated by Grugulis's (2003a)

examination of the NVO framework, which accredits informal and experiential learning, since she argues that this approach places excessive emphasis on the recognition of existing competences, at the expense of the development of new skills and competences that might be utilised within the workplace.

Heyes (1996) offers a different perspective. He suggests that workforce development programmes are usually driven by managerial priorities, and are designed to achieve managerial objectives. Yet he argues that such activities do not automatically result in improved employee performance, since this outcome is dependent upon both how, and in whose interests, the skills and knowledge imparted by training are utilised. This point is echoed by Santos and Stuart (2003), who have suggested that it would be erroneous to make assumptions with respect to the relationship between training and employee performance, since employees do not automatically utilise skill formation to further managerial objectives. Whilst the comments of these writers were made primarily in relation to formal off-the-job training, they clearly have equal pertinence with respect to informal on-the-job learning, and the efforts of organizations to capture and systematise this.

Serious questions then relate not only to the extent to which informal learning can be captured and systematised, but also as to whether this course of action would generate positive outcomes from an organisational perspective.

## 2.4 Evaluating the effectiveness of on-the-job learning

The evolution of the knowledge economy has led to a widespread assumption that learning is the key to organizational success within the global economy. As a consequence, the question of whether the effectiveness of workplace learning can be assessed or measured has taken on an added significance. Historically, much of the activity directed towards evaluating workplace learning has focussed on formal off-the-job learning typified by training courses and seminars. A number of methods including the Kirkpatrick Model (1967) and the CAIPO Model (Easterby-Smith, 1986) have been developed to facilitate this. Yet research undertaken by Santos and Stuart (2003) found that in practice many organizations place little emphasis on evaluating the effectiveness of formal training programmes.

Keep et al (2002) have pointed out that evaluating the effectiveness of formal off-the-job training is highly problematic, since methodological difficulties relate both to defining the inputs and outputs of formal training, and measuring the outcomes, especially as these relate to organizational performance.

Such considerations are equally important with respect to on-the-job learning. Clarke (2004) suggests that the variety of ways in which learning within the workplace is conceptualised makes for practical difficulties in assessing and evaluating this, since the methodological approach adopted will be influenced by whether learning is regarded as an individual or social process, as a formal or informal activity or as occurring at the level of the employee or organization. Such issues he suggests are further problematized by the fact that on-the-job learning can be seen as an outcome in itself, a perspective commonly adopted by educationalists, or, alternatively, as an input designed to generate individual and

organizational performance outcomes, a perspective typically associated with the discipline of Human Resource Management, since each viewpoint would necessitate the utilisation of different criteria to assess and evaluate learning.

Clarke further suggests that as much on-the-job learning is informal in character it is by its very nature unplanned and ad hoc. Such learning is therefore not amenable to the traditional approaches utilised to measure formal learning since learning outcomes cannot be specified. Hodkinson and Hodkinson (2004) similarly suggest that specifying and measuring the learning outcomes generated by unplanned learning is highly problematic, since indicators traditionally used in the field of education and training, such as participation rates, training hours, expenditures or level of qualification achieved are inappropriate in this context, as they relate primarily to the inputs and outcomes of formal learning. Equally tellingly, Eraut (2000) points out that because much on-the-job learning is unplanned, *it is difficult to detect without prolonged observation*. This is especially the case because employees engaged in on-the-job learning have a tendency to regard this as a normal part of every day work, and do not interpret their actions within the framework of learning.

Perhaps because of these difficulties, few academic studies have examined the effectiveness of on-the-job learning specifically, and little hard data exists in relation to how this supports workplace development and performance outcomes. Yet the paucity of data relating to this issue may also reflect the fact that few attempts are made to evaluate informal on-the-job learning within the workplace itself. Wallis and Stuart's (2005) study of large organizations for instance, found that on-the-job informal learning is rarely monitored or assessed in any structured way. Such concerns are likely to be all the more pertinent in SMEs, given that they frequently lack the capacity for such assessment and analysis.

Yet the few academic studies that have considered the impact of on-the job learning have found a positive relationship between this and employee or organizational performance. Fuller et al's (2003) study of the relationship between informal on-the-job learning and productivity in one large organization and three SMEs, thus suggested that informal learning improved the performance of individual employees and businesses but that the context in which informal learning took place had an important mitigating influence, whilst Wallis (2004; 2005) and Wallis and Stuart (2005) found that informal learning improved employee performance primarily because this increased employee confidence and self efficacy, but also because it enabled employees to improve their personal productivity through the adoption of new ways of working.

According to Skule (2004) the methodological difficulties faced by those attempting to assess and promote informal on-the-job learning in the workplace have resulted in more emphasis being placed on identifying those conditions within the workplace that facilitate such learning. We shall return to this theme in Section 4 of this review. He nevertheless suggests that *the methods for measuring the conditions conducive to on-the-job learning are themselves underdeveloped because of the continued emphasis placed upon formal (often off-the-job) training, and relatedly, the focus on quantitative approaches to assessment*.

This section has considered how learning has been conceptualised within the literature, and the main strengths and weaknesses of learning that takes place on the job. In the next section of this review, a number of specific forms of on-the-job learning are examined in greater detail.

## Conceptualising on-the-job learning: summary

- The issue of defining learning is a complex one, since this can take a number of different forms, such as formal, non-formal, informal, incidental and accidental, which often overlap and support each other.
- Debates about the character of knowledge, which have accompanied those about the nature of learning, suggest this similarly has a number of different dimensions that overlap.
- On-the-job learning can be formal, non-formal or informal in character, although evidence suggests that informal on-the-job learning is the most significant route by which employees acquire and develop competence. This has led to suggestions that informal learning should be better supported and managed within the workplace.
- On-the-job learning facilitates transfer since it is applied *in situ* and at the appropriate time, is relevant to employee needs and the specific workplace context and is highly accessible. It thus addresses the socio-psychological barriers to learning, as well as barriers relating to access to learning experienced by many low-skilled employees. It does not readily support theoretical or conceptual understanding, however, and can result in the perpetuation of bad practice and is beyond managerial control in many forms.
- The effectiveness of on-the-job learning has not been widely considered by academic studies, and it is seldom evaluated formally within the workplace itself, yet a number of studies have pointed to a positive relationship between on-the-job learning and employee performance.

### **3. Forms of on-the-job learning**

Our review thus far suggests that any understanding of the nature of learning at the workplace is likely to be complex. Learning can be conceptualised in many ways and many of the terms relating to workplace learning (particularly those such as informal learning, incidental learning, implicit learning, experiential learning, tacit learning and on-the-job learning) are used interchangeably. There is also a significant degree of overlap in practice between the forms of learning that have been identified and the types of knowledge that are developed. This has led a number of commentators, including Unwin and Fuller (2003) and Doyle and Hughes (2004), to suggest that differentiating between different forms of learning in the workplace is unnecessary, and indeed may be of limited value in terms of improving the quality of on-the-job learning. In a similar vein Billett (2004) contends that the use of the term 'informal' in relation to workplace learning is generally unhelpful, as this not only implies that such learning is inferior to formal learning, thus echoing broader debates about the relative value of academic and vocational education, but also that this term enables such learning to be conceived as unstructured, random and therefore not amenable to interventions designed to facilitate it, support it and make it more effective.

Against this backdrop, this section of the review considers a number of specific forms of learning that take place on-the-job, alongside their strengths and weaknesses. These characteristics are summarised in Table 3 below.

#### **3.1 Transmission model**

According to Fuller and Unwin (2002), the 'transmission model' of workplace learning involves skills and knowledge being passed on in a formal manner within a hierarchical framework either on-the-job within the workplace, or in an off-the-job context. It is synonymous with Taylorist approaches to work organization, and thus may emphasise clearly defined and demarcated job roles, uniform practices and an acceptance that decision-making is a managerial prerogative. The recognition of informal learning has led to this model coming under sustained attack. Yet typified in the on-the-job form by an approach commonly referred to as sitting by Nellie, and in a more updated form by computer based learning, this model remains resilient, and is recreated by employees in their informal interactions within the workplace.

Drawing upon the work of Engestrom et al (1995), who argued that learning taking place in social situations and through social interaction could be buttressed by structured teaching and learning, Fuller and Unwin (2002) contend that the pedagogical skills needed to facilitate the transmission approach can be found in all types of workplace, at all levels of organization, and amongst all types of employees. They argue that in many workplaces employees are often in the position of having to teach colleagues how to improve their performance or practice. This often happens informally, and many employees therefore develop,

tacit pedagogical skill as a result of such activities. Again drawing upon Engestrom et al's (1995) conceptualisation of workplace learning as both a horizontal and vertical activity, they suggest that, depending upon the specific situation, the same employee can be novice and expert, teacher and pupil. Evans and Rainbird (2002) have similarly challenged the traditional view that it is younger workers that learn from older colleagues, by highlighting research that has shown that young people are increasingly bringing a range of skills to the workplace, some of which are imparted to older colleagues.

Fonda's (1995) empirical study of low-skilled employees in 31 public and private sector organizations in the UK raised questions, however, about the quality of the learning opportunities facilitated by the transmission model. Although experienced employees were often responsible for providing on-the-job instruction, such employees were not always competent in guiding the work and learning of others. Additionally, the experienced employees often did not have the time necessary to complete the task of instruction, and learning was not always structured. As a consequence, standards were inconsistent and 'bad habits' were passed on to less experienced employees. Fonda's study also revealed that few attempts were made to assess the effectiveness of the transmission model of learning, and that the assumption was made that because inexperienced employees had been shown how to undertake particular tasks their learning was complete and their competence established.

These perspectives suggest that the transmission model has most utility in developing specific job related skills, and as such may have a significant role in developing LLNIT skills in circumstances where such skills are an intrinsic requirement of the job. Simple arithmetic and basic language and ITC skills could certainly be developed using the transmission model. The transmission model in the form of scripted responses could also be utilised to develop communication skills amongst employees within the low-skilled, low-paid sector. This approach would, however, be dependent upon those employees acting as instructors being competent in LLNIT skills themselves, being willing to share those skills with others, and having both the skills to achieve this, and the capacity to engage in this activity.

### 3.2 Mentoring/coaching

Mentoring is defined by Kram (1985) as the process by which an individual of higher status and advanced levels of expertise and knowledge provides time, interest and support to a subordinate person over an extended period in order to facilitate and support that individual's learning and career development. It is often utilised within organizational succession planning processes, and has been identified in practitioner literature as an emerging trend for the new millennium.

Mentoring facilitates on-the job learning through a number of interlinked processes. Thus Scandura (1998) suggests that mentors facilitate learning by being central to processes in which an individual learns to express certain behaviours in order to be rewarded or to avoid negative outcomes. In this way mentors shape employee attitudes and beliefs, whilst improving their self-efficacy

and generating appropriate behaviours. This implies that mentors themselves need to have an understanding of social learning processes. However, Parnell (1998) suggests that mentors also facilitate the development of 'hard' skills by championing the protégé for promotion or lateral job shifts which provides the opportunity for them to acquire experience of more challenging work and more demanding roles. Covan (2000) similarly suggests that mentors can facilitate learning by protecting protégés from the distractions of organizational politics or inappropriate assignments.

Research conducted by Ayree et al (1996) has demonstrated that effective mentoring is associated with a number of positive outcomes for individual employees, including higher earnings, career progression and improved job satisfaction, which together result in improved performance. There is also evidence that mentoring generates benefits at an organizational level. Parnell (1998) suggests that these arise because mentoring facilitates the maintenance of a skilled workforce, and helps to preserve the organizational culture. Scandura and Viator (1994) also found that effective mentoring was associated with improved labour retention.

The outcomes of mentoring programmes are dependent on a number of factors, notably, the interpersonal skills of the mentor, and thus the relationship they are able to build with the protégé. Such considerations are especially important in the case of female protégés for whom personal relationships are central. McDowall-Long (2004) suggests that because individuals identify most strongly with others who are similar to themselves, it is important for HRD professionals to facilitate the introduction of suitable mentors to prospective protégés. This is especially so, given that one common criticism of formal mentoring programmes and relationships relate to a mismatch between the experience and interests of mentor and protégé (McGregor and Tweed, 2002). Yet organizations face a number of potential difficulties relating to equality and diversity issues when establishing like for like mentoring arrangements. Suitable arrangement can be difficult to make in the case of potential protégés who are female, and those drawn from minority groups, given that these groups are under-represented at the higher levels of organizational hierarchies, and that there is a consequent lack of appropriate role models. These concerns are particularly pertinent in the case of potential protégés with double minority status (i.e. those who are a member of more than one minority group). Such concerns are likely to be especially relevant to SMEs since such organizations by their very nature have a smaller pool of potential mentors than larger organizations.

Studies conducted by Elzubeir and Rizk (2001) and Gray and Smith (2000) within the medical and nursing professions have suggested that the personality characteristics of mentors influence the success of mentoring arrangements, with successful arrangements being associated with mentors who are perceived by protégés as honest, respectful, dedicated, compassionate and as acting with integrity and with the capacity and willingness to provide honest feedback to protégés. These studies also highlighted the importance of mentors having practical skills, with protégés frequently valuing such skills to a greater extent than the status of the mentors.

These findings to some extent underline the questions that have been raised in relation to whether it is appropriate for a protégé to be mentored by their direct supervisor. Ragins and Cotton (1999) suggest that one of the key functions of a mentoring arrangement is to provide a 'safe' environment in which the protégé can learn and develop: asking questions, expressing thoughts and ideas and experimenting with different behaviours and skills. McDowall-Long (2004) therefore argues that it is logical to conclude that a supervisor-as-mentor would inhibit these mentoring functions, and that protégés mentored by their supervisor would have a fundamentally different mentoring experience than those with cross-functional mentors or mentors drawn from beyond their immediate chain of command.

Scandura (1998: 449) notes that "mentoring relationships may become dysfunctional" as individual needs and organizational circumstances change, and, along with Moberg and Velasquez (2004) draws our attention to the fact that mentoring relationships, like all close personal relationships characterised by power imbalances have the potential to give rise to abuse of a psychological or sexual nature. Even in less extreme situations difficult relationships between mentor and protégé may still be costly to the organization, since the energy channelled into their maintenance might be more productively used, and optimum learning outcomes are unlikely to be achieved. Such circumstances are particularly pertinent for organizations utilising mentoring programmes to support succession planning, perhaps especially so, when the organization is small.

Aside from formal mentoring programmes, mentoring relationships can, and frequently do, develop informally as a result of mutual liking and respect between co-workers, yet there are marked differences between formal and informal mentoring arrangements in terms of their objectives, characteristics and learning outcomes.

Ragins and Cotton (1999) and Ragins et al (2000) have suggested that formal mentoring arrangements are by their very nature designed to facilitate the achievement of short-term organizational learning goals. Because of this, they tend to be of shorter duration than informal mentoring arrangements, and protégés may perceive that the commitment of the mentor is to the programme, rather than to them as individuals. Likewise, mentors may perceive that their protégés are low-performers who have been assigned to a mentor in order to improve their performance. Clearly, as McDowall-Long (2004) points out such perceptions have the potential to restrict the extent of personal exchange necessary for successful learning outcomes.

Informal mentoring arrangements, tend to be of longer duration; an important consideration given Grossman and Rhodes' (2002) study which revealed that positive outcomes in mentoring arrangements were correlated with the length of the relationship. Indeed, according to Armstrong et al (2002), Macgregor and Tweed (2002) and Ragins and Cotton (1999), informal mentoring arrangements produce superior learning outcomes to formal arrangements. However, it has been argued that because informal arrangements do not commonly develop to facilitate the achievement of organizational goals, mentors in informal relationships may advise protégés to take actions that will benefit them personally, at the expense of the organization.

According to the Chartered Institute for Personnel and Development (CIPD, 2005) the term mentoring is often used interchangeably with coaching, as these on-the-job learning methodologies exhibit many similarities. Yet they suggest that coaching tends to occur over a shorter time period and usually has a specific focus. Furthermore, whilst mentoring relationships commonly involve colleagues within the workplace, coaching can, and often does, involve practitioners drawn from beyond the workplace, who are able to facilitate the learning process. Coaching is also more likely to be linked to the achievement of specific targets for performance improvement.

Bartlett (2006), citing both Rossett and Marino (2005) and Wang and Wentling (2001), suggests that coaching is increasingly incorporating ICT technologies, and that distance based coaching enables employees to apply their learning on-the-job. This suggests that ICT based coaching programmes may have some utility in developing LLNIT skills in an on-the-job context, especially for employees for whom LLNIT skills are a requirement for effective performance. Short-term coaching programmes involving external basic skills tutors could also be utilised to initiate the development of LLNIT skills in an on-the-job context.

Formal mentoring programmes may also be appropriate for developing LLNIT skills if an innovative approach was adopted in relation to this. One potential example could be to draw upon the expertise of workplace-based Trade Union Learning Representatives trained in Skills for Life issues. Such an approach would enable any difficulties relating to the establishment of like for like mentoring arrangements to be overcome, and would also address issues relating to employee sensitivity in acknowledging LLNIT skills needs.

### 3.3 Guided learning

From Billett's (1999) viewpoint, learning in the workplace is the product of everyday thinking and acting. Rather than being an activity that is switched on or off, therefore, learning is a continuous activity. He suggests that guidance within the workplace is likely to increase the robustness of learning, but differentiates between two forms of this. First, *direct guidance* is manifest in experts guiding novices' choice of solutions to tasks, providing models, clues and cues to appropriate performance and facilitating staged access to increasingly demanding activities. Direct guidance is a structured process that bears many similarities to both the transmission method, and mentoring and coaching. Second, *indirect guidance*, by contrast, is premised upon novices observing and listening to their colleagues and as such resembles a model based more around peripheral participation.

According to Billett (1999), the strengths of guided on-the-job learning are that it structures workplace experiences, thus enabling the novice to move to activities that are increasingly accountable at a comfortable pace. Direct guidance also militates against the development of inappropriate knowledge that might give rise to unsuitable workplace practices and behaviours. It also, he suggests, has the capacity to address the short-comings of any negative aspects of workplace culture.

Guided learning may have significant potential for developing LLNIT skills on-the-job, especially if the model of direct guidance was adopted, since this methodology would have the flexibility to enable employees to engage in bite-sized LLNIT learning that could be arranged both to fit around, and support their daily tasks.

Following Lave and Wenger (1991), however, Billett (1999) suggests that a weakness of guided learning approach is that experts or co-workers may be unwilling to share their knowledge and expertise with novices, particularly if they are concerned about the possibility of being replaced by those who they have guided and supported. An unwillingness to share knowledge may also be evident if experts interpret the diffusion of knowledge in terms of loss of status, or regard knowledge sharing to be against their interests. Yet Dore and Sako (1989) found that knowledge sharing (often referred to as information disclosure) was relatively unproblematic within Japanese corporations because promotion was based on seniority, and experienced workers therefore did not regard the sharing of knowledge as a threat to their potential for career advancement. In other words, information disclosure is often more likely to take place in organisations with well developed internal labour markets. The context in which guided learning takes place, then, may influence the success of this methodology.

### 3.4 Action Learning

According to McLaughlin and Thorpe (1993), Action learning draws heavily upon Kolb's (1984) learning theory in which action, reflection, theory and practice are seen as being of equal importance, but where the starting point for learning is action rather than theory.

Action learning is an approach to learning that is based on individuals working on real problems that have the capacity to be solved by action. It therefore involves individuals identifying a problem, taking ownership of it, and identifying the steps necessary to resolve it. These processes involve a group of co-workers described, by Revans (1982), as "comrades in adversity" who learn primarily by questioning their own and others' proposed actions in relation to the problem that has been identified. In this way, they learn new skills and develop broader insights.

Though most commonly operationalised as an off-the-job activity involving managers, which draws upon workplace experience (Mayo, 2007), the underpinning principles of action learning are central to the concept of quality circles within the workplace. Moorby (2007) also suggests that the type of activity that would be described as action learning occurs spontaneously within some environments.

Pedler (1988) suggests, however, that the effectiveness of action learning is to some extent dependent upon learners being able to identify, and address their own learning needs within this process. In practical terms this may indicate, as Moorby (2007) has suggested, that action learning needs a facilitator who understands it as a process, and is able to initiate and promote this approach.

Sutton (1990) cautions that because action is central to action learning there is a danger that theoretical and conceptual knowledge is devalued by its application.

This is in contrast to Pedler (1988), who suggests there is a potential for action learners to become so immersed in their learning that they fail to apply the skills and insights they have gained in pursuit of action, and the solution of workplace problems.

A further difficulty associated with action learning within the workplace is that because the outcomes are dependent upon change, the action learning process may be perceived as a threat, and may be met with resistance from those who have a vested interest in preserving the status quo, particularly when the initial problem straddles organizational boundaries. The implications of this, as McLaughlin and Thorpe (1993) point out, is that learners may become “paralysed” as they become aware of the significance of politics and the influence of power on decision making within their organizations. However, this in itself may indicate that the learners have developed a better appreciation of the structure and culture of their organizations. In common with McLaughlin and Thorpe, Moorby (2007) contends that action learning requires the support of a champion located towards the top of the organizational hierarchy who is able to ease the learning process through the organizational politics.

Because the focus of action learning is the solution of problems, and skills are developed largely as a by-product of this activity, there can be no guarantee that skills within the LLNIT cluster will be developed by this methodology, since much will depend on the nature of the problem under investigation. Furthermore, as action learning places a strong emphasis on self-direction, it may not be the most appropriate learning methodology for those low-skilled workers needing to develop LLNIT skills, but with little experience of autonomy within the workplace.

### 3.5. Peripheral participation and communities of practice

Lave and Wenger’s highly influential work *Situated Learning* (1991) challenged traditional educational perspectives in which the learner (or within the workplace the employee) is regarded as the passive recipient of taught knowledge. They argue that learning occurs in context, and that new entrants to the workplace therefore gain knowledge and skills through a process of ‘legitimate peripheral participation’. This process involves new employees progressively engaging with workplace activities so that over time from being marginal members of the work group they emerge as full participants within an established ‘community of practice’. Lave and Wenger’s approach thus suggests that employees develop skills on-the-job through engaging in tasks and with colleagues, but as the meaning of this activity is defined and negotiated by the work group novices are also able to access the hidden curriculum of the workplace. In this sense new employees engage in peripheral participation in order to ‘catch up’ with experienced employees, yet the process of peripheral participation commonly occurs naturally within the workplace and is often beyond the control and capture of management.

Fuller et al’s (2005) work with steelworkers and teachers suggests, however, that Lave and Wenger’s account does not illuminate how the on-the-job learning of newcomers differs from that of experienced workers. They suggest that the

relationship between these groups is more fluid than Lave and Wenger contend, and that newcomers often have a role to play in helping experienced workers learn. In this sense the roles of novice and expert are reversed. Furthermore, by dint of their job role, some employees are members of a number of communities of practice within the workplace, whilst others are restricted to a single community. This, they suggest, indicates that employees with a broader job role that enables them to cross organizational boundaries and thus gain access to more communities of practice have more opportunities for on-the-job learning.

Lave and Wenger (1991) acknowledge that communities of practice are social structures involving power relations, and that the way in which power is exercised can influence learning outcomes. This argument has been elaborated by Roberts (2006), who suggests that peripheral members of a community of practice may not necessarily achieve full membership status as a result of power imbalances within such structures, and that their learning may be restricted as a consequence. Yanow (2004) similarly suggests that because communities of practice are themselves embedded within broader power structures, even the expertise of full members may not be recognised within broader organizational hierarchies.

Roberts (2000) suggests that trust, familiarity and mutual understanding are pre-requisites for the successful transfer of tacit knowledge, and that members of communities of practice may be less willing to share knowledge and expertise in situations where trust is lacking or compromised. The use, or misuse, of power can then influence the degree of trust amongst those engaged in knowledge transfer, and thus learning outcomes.

According to Brown and Duguid (2001), managers cannot establish a community of practice in order to facilitate on-the-job learning, but they can support and encourage their development. Yet Kimble and Hildreth (2004:5) have questioned whether communities of practice are an appropriate management tool to foster on-the-job learning because their very nature means that learning outcomes cannot be guaranteed: "...because they are self managed and self directed their contribution to the organization will always be uncertain". Roberts (2006) also suggests that whilst the community of practice approach to knowledge development can be applied within a wide variety of settings, this approach may not be the most appropriate for SMEs because of the resources needed to cultivate communities of practice.

Roberts (2006) further suggests that the nature of employee relations has a significant influence on determining the success of a community of practice as a knowledge management tool. She contends that adversarial relations between management and employees, with low levels of trust and hierarchical control are not likely to support effective communities of practice and peripheral participation. Similarly, competition between employees is likely to discourage the collaborative efforts required to establish and maintain effective communities of practice. She therefore suggests that communities of practice may be more effective in harmonious, trusting organizational environments in which employees enjoy a high level of autonomy.

Peripheral participation is, then, unlikely to be an appropriate methodology for the development of skills within the LLNIT cluster, since this facilitates incidental

learning, and there is therefore no guarantee that LLNIT skills would be developed as a result of this activity. This is doubly the case because the learning that takes place as a result of peripheral participation can seldom be guided by managers, and inappropriate learning may therefore take place. Such considerations are also pertinent with respect to learning that takes place within communities of practice, although communities of practice involving employees engaged in customer facing positions may have a role in facilitating the development of appropriate communication skill. Such learning would, however, be difficult to observe and monitor.

### 3.6 Job rotation

Campion et al (1994) define job rotation as lateral transfers of employees between jobs within an organization. Differentiating this from promotion, which they argue involves upward movements of employees, with a corresponding rise in remuneration, status and responsibility, they suggest that job rotation whilst involving a change in assignment is not accompanied by any change in salary.

Hsieh and Chao (2004) suggest that many early commentators including Walker and Guest (1952) and Yoder et al (1958) advocated job rotation as a mechanism to increase employee motivation, because this approach relieved the boredom and fatigue experienced by those engaged in the highly standardized and repetitive jobs characteristic of the mass production paradigm. However as Eriksson and Ortega (2006) point out, job rotation is also an effective way of developing employee competence, since this facilitates on-the-job learning. Inter-functional rotation within higher levels of organizational hierarchies, for instance, enables employees to gain a deeper understanding of their organizations, and is therefore especially useful in succession planning. Yet intra-functional rotation at lower levels within organizational hierarchies enables employees to learn how to perform a broader range of tasks and functions and thus supports flexible working. Indeed, citing Osterman (1994), Pil and MacDuffie (1996) and Gittleman et al (1998), Eriksson and Ortega (2006) argue that job rotation is complementary to High Performance Working Practices incorporating forms of work organization involving team working, quality circles and Total Quality Management.

Campion et al's (1994) study of job rotation in an American pharmaceutical company demonstrated that employees regarded their increasing knowledge to be the main advantage of this, and suggested that this practice is especially effective in developing administrative, technical and business skills. They also point out that job rotation facilitates on-the-job learning because it has the capacity to give employees access to a greater numbers of communities of practice. They further suggest that because job rotation can also be utilised to compensate for understaffing, it has the potential to enable organizations to operate with optimum labour requirements whilst simultaneously facilitating on-the-job learning and thus staff development.

Ortega (2001) points out that job rotation not only facilitates employee on-the-job learning but also, organizational learning, since this enables an employer to receive valuable information about the quality of various employee-job matches. He also suggests that rotation, when utilised as an on-the-job learning methodology, is

based on the premise that employees change jobs when they have learned enough about their old job, and that the context in which an organization operates can have a significant bearing on the learning outcomes that rotation can facilitate. Employees engaged by organizations introducing new technology, for instance, may need more time to learn about their existing job before they rotate to another. Hsieh and Chao (2004) elaborate this latter point as they contend that in growth areas such as the high technology sector jobs are often designed to incorporate significant task variety and employee autonomy, and employees therefore have considerable opportunity for continuous on-the-job learning.

Job rotation perhaps offers some scope to enable employees to improve their existing LLNIT skills, yet clearly the capacity for organizations to utilise this methodology will depend to a large extent on the nature of their business and the types of jobs that employees do. It would clearly be undesirable for employees with serious needs in relation to LLNIT skills to be moved into jobs requiring such skills without support. Job rotation may then best be able to facilitate the development of LLNIT skills when linked with another on-the-job learning methodology such as guided learning.

This section has considered the strengths and weaknesses of six specific on-the-job learning methodologies, which are summarised in Table 3 below. The literature suggests that the *context* in which these methodologies are applied is likely to influence learning outcomes. Other literature, similarly suggests that a number of characteristics of the workplace itself can significantly influence the opportunities that employees have to engage in on-the-job learning. These issues are considered in the next section of this review.

**Table 3: Summary of the strengths and weaknesses of different on-the-job learning methodologies**

Form of on-the-job learning	Strengths	Weaknesses	Able to deliver	Most appropriate setting
<i>Transmission method</i>	<ul style="list-style-type: none"> <li>• <i>Utilises pedagogical skill already available in the workplace</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Does not readily facilitate the generation of generic skills unless these are a specific job requirement</i></li> <li>• <i>Can be undermined when 'experts' lack appropriate pedagogical skill</i></li> <li>• <i>Dependent on employees having the time to transfer their skill and knowledge to others</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>'Novices' with specific job related skills</i></li> <li>• <i>'Experts' with pedagogical skills</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hierarchical organizations with clearly defined job roles</i></li> <li>• <i>Organizations utilising Fordist or Taylorist forms of work organization</i></li> <li>• <i>Companies operating in niche markets requiring highly specialised skills</i></li> </ul>
<i>Mentoring /coaching</i>	<ul style="list-style-type: none"> <li>• <i>Discourages inappropriate workplace practices and behaviours</i></li> <li>• <i>Militates against any negative aspects of workplace culture</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Formal mentoring dependent upon appropriate pairings of mentors and protégés – can become dysfunctional over time</i></li> <li>• <i>Informal mentoring relationships can result in the interests of the protégé being prioritised over those of the organization</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Employees with appropriate behaviours and attitudes</i></li> <li>• <i>Short term organizational goals</i></li> <li>• <i>Reinforces organizational culture</i></li> <li>• <i>Facilitates succession planning</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Large organizations</i></li> </ul>

Form of on-the-job learning	Strengths	Weaknesses	Able to deliver	Most appropriate setting
<i>Guided learning</i>	<ul style="list-style-type: none"> <li>• <i>Enables 'novice' to develop skills and knowledge at a comfortable pace</i></li> <li>• <i>Militates against any negative aspects of workplace culture</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dependent upon 'experts' ability and willingness to share knowledge and skills with 'novices'</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Employees with appropriate behaviours</i></li> <li>• <i>Reinforces organizational culture</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Not context specific – has wide application</i></li> </ul>
<i>Action Learning</i>	<ul style="list-style-type: none"> <li>• <i>Enables 'novice' to gain broader insights into specific problems and issues</i></li> <li>• <i>Enables 'novice' to gain better understanding of organizational structure and politics</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dependent upon 'novice' being able to identify a problem</i></li> <li>• <i>May require a facilitator and may therefore be resource intensive</i></li> <li>• <i>Focus on action at the expense of theoretical and conceptual knowledge</i></li> <li>• <i>Learning outcomes delimited by the particular problem solving opportunities available</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Has the potential to enable 'novices' to resolve problems</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Most appropriate when organizational boundaries not crossed</i></li> </ul>

Form of on-the-job learning	Strengths	Weaknesses	Able to deliver	Most appropriate setting
<i>Peripheral participation</i>	<ul style="list-style-type: none"> <li>• <i>Occurs naturally within the workplace</i></li> <li>• <i>Enables employees to access the 'hidden curriculum' of the workplace</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Learning outcomes delimited by power structures within the workplace, and opportunities employees have to engage in communities of practice</i></li> <li>• <i>Learning delimited by the nature of the primary activity of the employee</i></li> <li>• <i>Largely beyond managerial control</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Experienced employees</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Most appropriate in non-hierarchical, high trust, organizations, where employees enjoy a high level of autonomy</i></li> </ul>
<i>Job rotation</i>	<ul style="list-style-type: none"> <li>• <i>Facilitates organizational learning</i></li> <li>• <i>Enables employees to access multiple communities of practice</i></li> <li>• <i>Potential to enable organizations to reduce staff and facilitate on-the-job learning</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Learning delimited by the types of jobs employees do</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Employees with a broader understanding of their organizations</i></li> <li>• <i>Employees able to perform a broad range of different tasks</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Organizations utilising team working</i></li> </ul>

## 4. The workplace and on-the-job learning

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According to Garrick (1999), the learning activities of individuals within the workplace are formalised and influenced by factors such as cost considerations, production, timeframes, industrial relations, managerial requirements and work organization. Yet Clarke (2005) argues that there is little empirical evidence to support many of the claims made about the significance of the workplace environment on learning outcomes, and that the literature instead focuses on environmental variables appertaining to the workplace, and their relationship with the opportunities that employees have to engage in non-formal on-the-job learning. In this chapter we examine the value of such claims and detail the evidence to support the potential influence of workplace context of learning processes and outcomes.

### 4.1 Competitive strategy

According to Keep (2000), skill formation and workplace learning are, in strategic management terms, normally third order issues in most organizations. First-order questions relate to competitive strategy. They impact upon second-order choices, which concern amongst other things, the nature of work organization, job design and performance management systems. Decisions about workplace learning rest within the wider contexts provided by first and second-order decision-making, and Keep therefore argues that it may be necessary to encourage employers to change their competitive strategies in order to change their approach to learning within the workplace.

Keep suggests that if employers seek to upgrade product market strategies and enhance product specification and service quality they will maximize the opportunities for the entire workforce to engage in learning in order to acquire and utilize higher levels of skill. Keep's argument is supported by Mason's (2004) analysis of data drawn from the 2001 UK Employers Skills Survey, since this found a significant correlation between product strategy and skills mix at both sector and establishment levels, with high levels of workforce skills being positively associated with high value added product strategies, and low levels of employee skills being associated with low value added product strategies. Yet Keep acknowledges that the creation of a high skills economy requires a large number of employers to shift their business strategies, adopting long-term approaches and focusing on higher quality product markets or innovative and differentiated markets.

A number of empirical studies have confirmed that the competitive strategies adopted by organizations have a significant bearing on the approaches taken to workplace learning, and, consequently, the opportunities that employees have to

participate in learning activities. Kerr and McDougall's (1999) study of SMEs in Scotland, for instance, suggests that companies choosing to compete on the basis of high-quality products and services place more emphasis on workforce skills development than organizations that adopt cost minimization strategies. The authors point out that product diversification is a crucial issue for the survival and growth of many companies in this sector, and that employee learning is therefore often regarded as a key mechanism to assist staff to adapt to the changes needed to enable organizations to follow this pathway.

Matlay's (2002) quantitative survey of 6,000 U.K. micro firms and small enterprises similarly reveals that organizations adopting cost minimization strategies, focusing on low quality products and services, rely mostly on reactive training strategies and have little need to either provide a learning environment, or to encourage employees to engage in continuous learning. Companies that adopt product differentiation strategies focusing on high quality, unique products and services, by contrast, have a greater need to encourage employees to engage in learning, and therefore to develop strategies to facilitate this.

Kitching and Blackburn's (2002) study of over 1,000 SMEs also confirms a relationship between the incidence and intensity of learning amongst established employees and the competitive strategy adopted by their employers. They found that companies operating in highly competitive markets sometimes sought new means of creating and sustaining an advantage over rivals based upon developing the stock of skills in order to improve efficiency or to facilitate innovation with respect to products and processes. They therefore argue that employers competing on the basis of product quality or product innovation may face frequent pressures to upgrade the skills of employees. The provision of formal workplace training is likely to be one approach adopted to address such pressures, yet facilitating on-the-job learning may also play a part. Employers competing primarily on the basis of cost, however, arguably have fewer incentives to increase workforce skills, and may therefore place less emphasis on training and the promotion of on-the-job learning. They may, instead, attempt to maintain the 'low skills' equilibrium in order to avoid the possible disadvantages of raising employee skills such as rising wage demands and a loss of control over labour.

Following this, Ashton and Sung's (2006) study of organizations in the manufacturing and retail sectors suggests that training resources may be wasted within companies operating on the basis of mass production unless those organizations have a business strategy that locates skill as the primary source of competitive advantage. Raper et al's (1997) study of organizations in the banking, retail, distribution and textile manufacturing sectors similarly suggests that investment in on-the-job learning may be counter-productive if the business strategy focuses on competing on the basis of price, since here, the increased costs associated with facilitating learning may result in the product being uncompetitive in the market. Raper et al nevertheless found that changes in the product market, as well as attempts to improve product or service quality, were among the factors that both necessitated and facilitated learning in the companies they studied.

A number of other studies have shown that changes in business strategy can have a major impact on workplace learning. The work of Pettigrew et al (1988), for instance, suggests that the adoption of new product market strategies impact upon workplace learning within organizations because this either highlights or generates skills gaps that need to be addressed if the new strategy is to be viable. Jones's (2005) study of 871 SMEs in the Australian manufacturing sector similarly found that changes in business strategy, especially when focused on changes in production technology or improvements in process technology, and the introduction of business improvement programs designed to facilitate entry to high value added sectors, are an influential and relatively consistent driver of increased workplace learning.

## 4.2 Organizational structure

According to Tamkin et al (2004) the structure of an organization can exert a significant influence on learning and skills development within the workplace. They contend that structures that encourage team working and collaboration are able to stimulate demand for informal on-the-job learning, whereas hierarchical structures, and those that do not provide employees with the opportunity to co-operate and work collectively, can act as barriers to this. Clarke (2005) similarly suggests that more democratic workplaces characterised by open flows of communication, staff involvement in decision-making and clear organizational vision are likely to promote on-the-job learning.

The influence of organizational structure on on-the-job learning has also been highlighted by empirical research. Ashton's (2004) work in South-East Asia for instance, demonstrates that organizations characterized by hierarchical relationships between employees are associated with the presence of strict controls on the distribution of knowledge, and on access to this. Within such organizations knowledge is readily available to senior staff, but is not cascaded down to those employees operating at lower levels within the organization. Yet Ashton contends that even in organizations that have embraced flatter structures, considerable control governing the access to knowledge may still be evident, with senior managers having more access to this, and to information about the organization and its resources, than their subordinates.

The implications of Ashton's work are that there is a relationship between organizational structure and perceptions of knowledge, and that this relates to on-the-job learning because employees at the bottom of organizational hierarchies have fewer opportunities for on-the-job learning because of their restricted access to knowledge.

Zambarloukos and Constantelou's (2002) study of Greek organizations operating in the food, publishing and automotive sectors also underscores the significance of organizational structure. They contend that hierarchical organizations often operate to stricter deadlines, and that such operational pressures restrict the opportunities that employees have for on-the-job learning derived from collaborative relations with colleagues, since informal learning is regarded as being too time consuming. Organizations with less rigid structures, by contrast, were found both to generate a

better appreciation of on-the-job informal learning and to encourage this within the workplace.

### 4.3 Organizational culture

Many commentators have highlighted the significance of organizational culture on the opportunities that employees have to engage in on-the-job learning. Indeed according to Leslie et al (1997) this factor exerts the most significant influence on on-the-job learning since the norms, beliefs, values, and practices that pervade an organization determine both extent and the variety of informal learning opportunities that are available to employees.

Both Day (1998) and Illeris (2004) argue that a learning culture within organizations, that is, a culture in which workplace learning is promoted, supported and rewarded, is a major facilitator of informal on-the-job learning. This perspective is buttressed by the empirical work of Fuller and Unwin (2004). Their examination of four private sector companies in the steel industry in England and Wales revealed that an organizational culture that supported learning by placing a high value on team work, encouraging a wide distribution of skills, supporting cross-boundary communication and where managers had positive attitudes towards employee learning, stimulated demand amongst employees for on-the-job learning opportunities. Similarly, Ellinger's (2005) qualitative research in an American manufacturing firm highlighted that an internal culture in which learning was valued was among the key contextual factors that influence employee participation in informal on-the-job learning within that specific workplace setting.

Newton et al's (2006a) consideration of the low-skilled, low-paid sector, however, suggests that the culture of an organization can act as a barrier to on-the-job learning, particularly in situations where organization-wide learning is not endorsed, since this results in line managers being unsupportive of learning, and employees having limited opportunities to develop and apply their skills. Lohman's (2005) survey of 600 teachers and Human Resource Development professionals similarly revealed that an unsupportive organizational culture in which workforce development was regarded as a cost to be minimized, and in which employee learning was not rewarded, represented a barrier to learning, and inhibited employees from seeking out and engaging in on-the-job learning. Sambrook and Stewart's (2000) study of 28 organizations in 7 European countries also revealed that an organizational culture characterized by a short-termist rather than strategic outlook, high levels of bureaucracy, high levels of task-orientation, and an unwillingness to embrace change has a tendency to inhibit employee engagement with, and participation in, on-the-job learning.

The link between organizational culture and performance has been examined in detail by Purcell et al (2003). As they note, in all organizations a psychological contract exists between the employer and employee. This sets expected standards for work activity and performance and anticipated supports amongst employees. Increasingly, this contract relies on employees working more flexibility and learning more extensively, but employees will only accept this if the employer reciprocates with support to enable learning to happen. If there is a perceived disjuncture between espoused company policy and actual practice, employees may collectively

withdraw their support for the company's goals. This is understood by Purcell and his colleagues in terms of a withdrawal of 'discretionary behaviour'. To ensure that employees' discretionary behaviour is maintained, it is argued that a set of conditions needs to be put in place to make sure that this happens. First, there must be a requisite number of employees with the *ability* to do the job. Second, there must be a *motivation* for employees to apply their abilities. Third, there must be an *opportunity* for employees to engage in discretionary behaviour. Such behaviour is essential if employees are to learn and develop on an ongoing basis and apply their abilities to improving organizational performance, but this will most likely occur where they have *space* left for choice and discretion. For this to happen, organizations need to look very closely at how their HR practices link together, how jobs are designed and the principles guiding line management activity. In many respects, this framework suggests little that is new. It focuses on the issue of 'internal fit' that underpins much academic analysis of human resource management, and also supports the 'bundles of practices' approach that is perceived as central to the development of high performance workplaces. Nonetheless, the focus on what is needed to trigger discretionary effort usefully ties together the broader structural and policy issues of an organization and the sets of practices that an organization needs to implement.

#### 4.4 The organization of work

The way in which work is organised has been identified as a major influence on the opportunities that employees have for on-the-job learning by many writers including Garrick (1999), Marsick and Volpe (1999), Ellstrom (2001) and Eraut (2004). These authors all suggest that forms of work organization that are premised upon co-operation and collaboration between employees have significantly more potential to promote on-the-job learning than forms of work organization that are based upon employees working in isolation. This assertion is supported by empirical research. Nordman and Hayward's (2006) secondary analysis of data drawn from the 1997 and 2001 Skills Surveys found that employees working entirely alone have fewer opportunities than those integrated into work teams, to learn the skills and internalise the knowledge of co-workers. Nordman and Hayward also found that close supervision, or a close dependent relationship with a supervisor also appears to facilitate on-the-job learning.

Rubenson and Schutze (1993), Illeris (2004) and Tamkin et al (2004) similarly suggest that the level of autonomy enjoyed by employees within the workplace, the opportunities they have to apply their skills and the potential that work organization gives for interaction with other employees are factors that promote informal on-the-job learning. They argue that an effective way to support and facilitate on-the-job learning, therefore, is to organise work in such a way that all employees have the opportunity to participate in decision making within the part of the operation in which they work.

A number of commentators have similarly indicated that some forms of work organization can act as a barrier to on-the-job learning. Rubenson and Schutze (1993) for instance contend that forms of work organization which are premised upon a rigid division of labour, the disaggregation of skill and lack of employee

autonomy result not only in employee alienation and hence a lack of motivation, but also in employees having fewer opportunities for on-the-job learning, and a steady regression of knowledge and skills in the workplace as a consequence. Sambrook and Stewart's (2000) empirical work similarly suggest that employees have fewer opportunities for on-the-job learning when work is organised to facilitate round the clock operations, and to enable an organization to operate at maximum capacity.

Organizations operating along Taylorist and Fordist lines, then, appear to provide fewer opportunities for on-the-job learning than organizations that adopt forms of work organization that reflect the post Fordist model.

Harris (1999) suggests that the way in which work is organised influences how people learn at work rather than acting as a facilitator or barrier. Thus, within real estate enterprises employees commonly work exclusively with only one other staff member. Much of their learning is therefore undertaken in a self-directed manner, often by working individually on a project and then consulting with another staff member to check progress. This seems to mirror the way in which work is undertaken in that sector, as each employee in a real estate business has a portfolio of properties that is managed with some degree of independence from other employees. In contrast, learning within the information technology industry and police services tends to be team-based because work is organised more around group-based projects. Individual members of the group often have expert knowledge in an area that they share with other members of the group, with the support and encouragement of a team leader or supervisor.

Pettigrew et al's (1988) qualitative study of 20 U.K. companies, demonstrates that changes to work organization precipitated by downsizing and reductions in labour requirements often resulted in work intensification, as the remaining staff were expected to assume more tasks and responsibilities. Pettigrew et al argue, however, that such developments often impact upon on-the-job learning, since this may be utilized to support the introduction of multi-skilling and teamwork. Wallis and Stuart's (2005) and Rainbird et al's (1999) studies of low-skilled employees lend some support to this argument, since both found that the job enlargement and role expansion that was associated with restructuring within the public sector in particular, generated a rising demand for learning amongst employees, with this often being met by informal on-the-job learning particularly in the absence of opportunities for formal off-the-job learning.

According to Johnson (2002), the introduction of new forms of work organization promote on-the-job learning because they generate new skills needs, and commentators such as Keep (2000), Lloyd and Payne (2002) and Keep and Payne (2002) have argued that work can, and should, be organised in order to maximize the opportunities that all employees have to learn on the job, and acquire new skills. These authors suggest that new forms of work organization have the potential to reduce the number of unskilled jobs within the workplace, and that this is one of the mechanisms that needs to be adopted in order to address the low-skills equilibrium that characterises the UK economy. They therefore argue that, alongside other measures that relate to competitive strategy and human resource management practices, organizations, should introduce forms of work organization that require employees to have more, rather than less, skill, and should provide

greater levels of autonomy for employees at all levels within the organizational hierarchy. Yet these commentators also point out that firms operating in high specification, high value added product markets might nonetheless elect to organise work in such a way that the majority of employees undertake a relatively narrow range of tasks, with limited job autonomy, little real involvement in work, and few opportunities for on-the-job learning. The shift towards a high skill workplace that would facilitate on-the-job learning, therefore, would necessitate the introduction of forms of work organization in which employees have a greater degree of control over the labour process.

Gee et al (1996: 65), however, highlight the tension between new forms of work organization such as self-managed teams, which emphasise employee autonomy, and thus promote learning through legitimate peripheral participation and the need to maintain managerial control over the learning process:

“What we are talking about here, in the end, is the way in which immersion into a ‘community of practice’ can allow individuals or units to internalise values and goals – often without a great deal of negotiation or conscious reflection and without the exercise of very much top-down authority”

Indeed such concerns have particular resonance with respect to informal on-the-job learning methodologies such as peripheral participation, since such processes are often beyond managerial control in the first instance, as was discussed in section 3.5 above.

## 4.5 Job design

According to Jones and Hendry (1994), Marsick and Volpe (1999), Ellstrom (2001) and Grugulis (2003b), the opportunities that employees have to learn at work are greatly influenced by the nature and content of the jobs they do, the way that jobs are structured and controlled, the responsibilities that are given or withheld to those undertaking them. The opportunities for development within work will affect the opportunities employees have for on-the-job learning, and thus the skills they can develop. Challenging work, these writers suggest, provides more opportunities for employees to learn on the job, and to develop and hone skills than work of a routine nature. This view is echoed by Eraut et al (2000) who argue that on-the-job learning is more likely when there is task variation within jobs, where jobs facilitate participation in temporary groups within the workplace and where jobs provide opportunities for employees to consult experts beyond the workplace, and Lave and Wenger (1991), who stress the importance of work roles that facilitate peripheral participation in communities of practice.

Newton, et al's (2006a) consideration of low-skilled, low-paid work indicates that job design can impact upon on-the-job learning in two different ways: jobs can be deskilled and routine, and thus present little opportunity for employees to engage in learning; or, alternatively, jobs may be enlarged and expanded, with this leading to a concomitant requirement for extended skills amongst low-paid, low-skilled employees. Newton et al also contend that generic skills are increasingly critical within the workplace, and jobs and tasks should therefore be designed to foster the

development of competences in areas such as problem-solving, communication and ICT.

Tipton (1982), Rainbird (2000a) and Illeris (2004) nevertheless contend that many low-skilled jobs are in practice of poor quality. By this they mean that they are routine and undemanding, and offer employees little scope for discretion. Employees engaged in low-skilled jobs therefore have little opportunity to engage in on-the-job learning that will enable them to expand their knowledge. Job enlargement and job enrichment they argue, contribute to the availability of learning opportunities in the workplace. The key to engaging employees in high quality on-the-job learning therefore lies in the re-design of jobs. According to researchers engaged within the ESRC Teaching and Learning Programme, however, job expansion brings both opportunities and challenges. It may promote on-the-job learning in many circumstances, yet in others, may result in stress and demotivation amongst employees, and the emergence of a level of cynicism in relation to learning. This point is also made by Wallis's (2005) study, which revealed that whilst many employees in low-skilled roles relished the learning opportunities presented by job enlargement, those employees who perceived job enlargement in terms of work intensification reported lower levels of satisfaction, this being especially the case when they did not have access to learning that enabled them to develop the new skills that job enrichment required.

Tamkin et al (2004) make a case for job re-design on the basis that this has the capacity to improve organizational performance. They argue that skill and enthusiasm are often attributes of individual employees, but these qualities can only be utilized within the workplace when employees are allocated to appropriate roles. From this, they argue that if employees are constrained by repetitive and narrow roles, they will be unable to deliver the kind of performance developed through on-the job learning strategies that will impact upon organizational success, irrespective of the skills and qualities they have.

Recent empirical studies have also supported the notion that job design can influence the capacity of employees to engage in on-the-job learning. Rainbird and Munro's (2003) case study research in UK local authorities and NHS trusts thus demonstrates that jobs that are designed to involve collaboration between employees can promote informal on-the-job learning through knowledge sharing, whilst Ashton's (2004) study of a company operating in South-East Asia demonstrated that the narrowly defined tasks of junior clerical employees provided them with opportunities to acquire only limited knowledge and skills, whilst their random allocation to posts placed further limitations on this.

## 4.6 The role of managers

The role of managers as gatekeepers to formal learning opportunities within the workplace has long been recognised, but their role in relation to promoting a learning culture, and facilitating informal on-the-job learning has received increasing attention in recent years. This is clearly evident in the work on Purcell et al (2003) on the drivers of discretionary behaviour at work.

Many authors, including Appelbaum and Walter, 1997, Billett, 1999, Lange et al, 2000, Macneil, 2001, Marsick and Volpe, 1999, Russ-Eft, 2002 and Tamkin, et al, 2004), have highlighted a strong relationship between managerial commitment to, and support for, workplace learning, employee engagement in this, and workforce skills development. They all suggest that supervisors and managers can provide assistance to those for whom they have responsibility as they learn on-the-job, are able to provide a model of behaviours that on-the-job learning aims to develop and can offer positive feedback on the use of skills developed through on-the-job learning methodologies.

Newton et al (2006a) suggest that supervisors and line managers have a critical role to play both in cultivating workplace learning in general, and basic skills development in particular, since their willingness and ability to deliver on-the-job LLNIT skills training can influence the basic skills development of employees with those particular needs. Yet the gatekeeper role indicates that supervisors and managers may also represent barriers to the development of LLNIT skills where they do not see the need for employees to develop such skills.

A number of empirical studies have confirmed the importance of management support for employee learning within the workplace. Ellinger's (2005) study of a US manufacturing firm, for instance revealed that managers and supervisors had the capacity to generate informal on-the-job learning opportunities, could act to develop individual employees by taking on the role of coach or mentor, had the ability to create 'space' for informal on-the-job learning and could encourage risk taking, which would enable employees to learn from their mistakes. Managers and supervisors were also able to create an environment conducive to learning, by emphasising the importance of sharing knowledge and developing others, by giving positive feedback and recognition to learning achievements, and by serving as role models for employees. Raper et al (1997) similarly found that supervisors and managers were able to arrange planned work experience and mentors for less experienced employees, each of which were found to increase the pace of work-based learning.

Hughes's (2004) study of new entrants to public sector organizations found that while most supervisors were not directly involved in on-the-job learning as 'tutors', their influence on on-the-job learning was nevertheless extensive. Their influence was exercised through routine supervisory functions, delegating tasks to employees, establishing the level of performance expected from employees and providing feedback on work that had been undertaken. All these functions promoted or necessitated on-the-job learning by employees.

Evans et al's (2005) longitudinal study conducted in four sectors also revealed that supervisors able to identify employee learning needs could help employees engage in learning activities that would address these needs. Supervisors were, for instance, able to guide an employee through a variety of formative work experiences, gradually increasing their autonomy, as well as soliciting feedback to the employee on performance from a range of colleagues. Perhaps more significantly, this study also revealed that positive management attitudes towards learning not only facilitated this, but also stimulated employee demand for additional on-the-job learning opportunities.

Yet, despite the recognition given to the potential role of managers in promoting and facilitating informal learning, and the empirical studies that underline the significance of this, a number of authors have nonetheless suggested that the capacity of managers to facilitate learning may be constrained by the extent of their own training and learning. Studies by the CIPD (2000) and Marsick and Watkins (1997) thus argue that the ability of managers to facilitate the learning of others is to a large extent dependent on their own skills, and their understanding of how learning takes place on-the-job.

Others point to organizational factors that may influence the capacity of managers to facilitate on-the-job learning. The IPD (1995), Reynolds et al, (2002) and (Storey, 1992) thus suggest that this may be dependent upon: firstly, whether managers have themselves been developed to undertake this role; and, secondly, whether the organizational climate is supportive of such managerial activity. Lloyd's (2002) study of companies in the UK pharmaceutical and aerospace sectors lends weight to this argument, since in each of the organizations studied senior managers tended to view learning as a minor issue that fell within the remit of junior managers, yet also failed to provide adequate resources for junior managers to address the skills needs of their employees. Wallis (2005) similarly highlights the tensions faced by line managers balancing their responsibilities for staff development with those relating to every day operational issues. Such tensions are particularly acute in public sector organizations, since evidence suggests that externally imposed target drive performance management frameworks often result in line managers prioritising operational concerns at the expense of employee learning.

#### 4.7 Performance management frameworks and reward systems

A number of commentators including Eraut (2000), Marsick and Volpe (1999), Rainbird (2000a) and Tamkin et al (2004) have suggested that performance management frameworks and reward systems have the potential to stimulate on-the-job learning. Performance reviews and appraisal schemes are considered to be particularly important since these enable employees to clarify their performance objectives, and, perhaps more importantly, identify the skills they need to develop in order to facilitate this. As Santos and Stuart (2003) assert it is necessary for any appraisal scheme to support training activity in a coherent and consistent way. This requires the appraisal to connect with training activity not only after a training event has taken place, but prior to it, to ensure that any training undertaken is considered relevant by the employee and employer. The provision of rewards for knowledge sharing, teamwork and on-the job learning also has the potential to promote such activity. Woodall (2000) therefore suggests that performance management frameworks need both to compliment, rather than impede, workplace learning, and to ensure that managers play a key role in facilitating this.

Newton, et al (2006a) suggest that performance management frameworks are particularly significant with respect to developing the skills of employees engaged in the low-skilled, low-paid sector. They argue that organizations that fail to review

the skills requirements of jobs, provide performance feedback or consider innovative mechanisms to reward improved performance are unlikely to encourage employees to review their skills needs and engage in on-the-job learning that will allow these needs to be met.

A number of recent empirical studies have also highlighted the role of performance management and reward systems in promoting informal on-the-job learning. Ashton's (2004) South-East Asian case study, for example, demonstrated that the system of rewards, and particularly whether learning is regarded as an activity that *should* be rewarded, is important in determining the breadth and depth of work-based learning. Cabrera et al's (2006) survey of employees working within a large multinational company in the information technology, systems and services sector similarly demonstrated that employees were more likely to learn on-the job by sharing knowledge with their colleagues when they were rewarded for such behaviour and received feedback on the resulting performance. Skule's (2004) analysis of data collected from employees in 11 private and public sector organizations revealed that on-the-job learning could be promoted by rewards in the shape of positive feedback from supervisors, higher wages for increased proficiency or competence and access to more interesting tasks or enhanced career opportunities.

Yet, as Wallis (2005) found, target driven performance management frameworks can act as a barrier to on-the-job learning, particularly when these are adopted by organizations operating with optimum labour requirements, since this reduces the capacity that employees have for experimentation, and learning by trial and error.

#### 4.8. The role of Trade Unions

A number of writers have highlighted the positive contribution that trade unions are able to make to workplace learning. Streeck (1992), for example, suggests that if trade unions are able to close off routes to competitiveness based on low skills and low wages, this is likely to encourage employers to adopt alternative high skills, high wage strategies, and by implication, to invest in learning that will improve the skill levels of employees. Lloyd and Payne (2002) similarly argue that within the framework of broader institutional structures, power relationships within organizations influence choices relating to the form of work organization, and skills strategies that are adopted. Shifting towards a genuine high skill organization would necessitate employees assuming a greater degree of control over the labour process, and in many workplaces, it would be trade unions, as the collective representatives of employees, who would need to play a major part in pressing for these types of changes. These notions have received some support from empirical studies

Freeman and Medoff (1984) have suggested that by providing an outlet for worker discontent which might otherwise be expressed in resignations, trade unions reduce labour turnover, and thus encourage employers to provide learning opportunities for employees, since they are more likely to see a return on their investment. This point is echoed by Green (1997) who suggests that the trade union impact on labour turnover may indirectly make investments in learning more

profitable, and Whitfield (2000), whose secondary analysis of data derived from the third Workplace Industrial Relations Survey (WIRS) and the Employer Manpower and Skills Practices Survey (EMSPS) enabled him to suggest that because trade union presence was associated with lower levels of labour turnover, this reduced the risk of trained and experienced employees being poached by other employers.

A number of empirical studies conducted in the 1990s demonstrated a positive association between trade unions and workplace learning. Green et al, (1995) found that employees in workplaces where trade unions were recognised had a much greater likelihood of receiving off-the-job training than their counterparts in non-unionised workplace, and that unionised workplaces were more likely to have training and learning plans. Cully et al (1998) similarly found a positive association between trade union recognition and both the availability of training, and amount of training undertaken by employees. Heyes and Stuart (1998), moreover, have demonstrated that further positive benefits accrue with respect to training and learning, when trade unions, in addition to being recognised at workplace level, are also able play an active role in developing workplace learning strategies. Whilst Heyes's (1993) research in the engineering sector demonstrated that trade unions were able to influence both training decisions and outcomes, and the skills strategies adopted by organizations.

More recently trade unions have been accorded a key role in delivering the UK government's skills strategy. To date some 18,000 trade unionists have been trained to act as Union Learning Representatives (ULRs), with a number of studies indicating that ULRs have had significant success in promoting learning within the workplace and increasing employee demand for learning opportunities (Cowen et al, 2000; Wallis et al, 2005; York Consulting, 2003). Wallis and Stuart (2005) suggested that the activities of ULRs in increasing the confidence of employees indirectly supported on-the-job learning. Further, Wallis's (2002) study of ULR activity in the steel industry demonstrated that ULR independence from the management function was a critical factor in their ability to engage low-skilled non-traditional learners and promote the development of LLNIT skills amongst this group.

Trade unions, then, represent a significant resource upon which employers can draw to promote on-the-job learning, and the acquisition of LLNIT skills. Stoney's (2002) research in the telecommunications sector also demonstrated that unions committed to workforce up-skilling can contribute significantly to the development of learning schemes through their access to public funding and resources.

## The workplace and on-the-job learning: summary

- The research evidence suggests that the workplace environment can exert a significant influence on the capacity of employees to engage in on-the-job learning.
- Organisations operating in high value added product markets, on the basis of flexible specialisation, and in highly competitive sectors are most likely to provide opportunities for employees to undertake on-the-

job learning because they have adopted a competitive strategy based on skill rather than price.

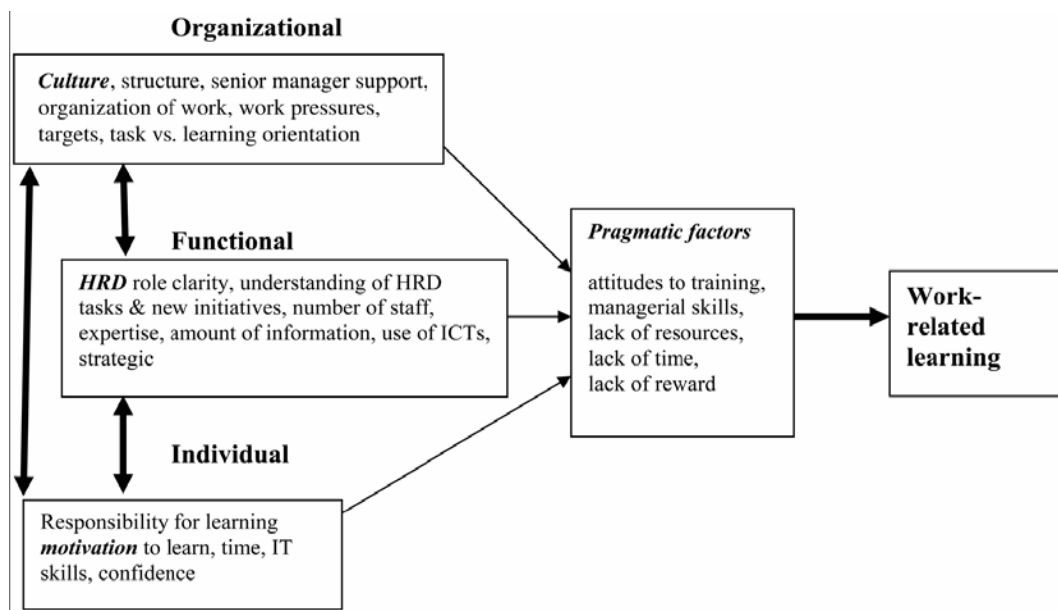
- Employee engagement in on-the-job learning is more likely in flatter, open, democratic organisations where employee involvement is encouraged than in hierarchical organisations where access to knowledge is strictly controlled.
- Employees are more likely to have opportunities for on-the-job learning in organisations where learning is promoted, supported and rewarded than in those where this is not the case, or where workforce development is regarded as a cost rather than an investment.
- Forms of work organisation based on team working, collaboration and employee autonomy are more likely to promote on-the-job learning than those in which employees work alone, yet restructuring that embraced changes in work organisation can act as a catalyst for on-the-job learning because this generates new skills needs.
- Employees engaged in jobs requiring high levels of skill, having significant levels of task variation and some degree of managerial responsibility have more opportunity for on-the-job learning than those engaged in routine, repetitive, undemanding roles.
- Managers are able to promote on-the-job learning, by creating a workplace environment conducive to this and by mentoring inexperienced staff. Organizational factors, however, may limit the capacity of managers to facilitate employee learning.
- Performance management frameworks and reward systems have the capacity to encourage on-the-job learning.
- Trade Unions represent a significant resource upon which employers can draw to promote on-the-job learning.

## 5. Models of workplace environments conducive to on-the-job learning

The previous chapter identified specific factors within the workplace that influence the opportunities that employees have for learning. Building on this, a number of authors have developed models of the learning conducive workplace environment.

Sambrook's (2005) model, developed from case study research conducted across Europe, suggests that the workplace environment influences employee learning on three distinct levels: organizational, functional, and personal (see Figure 1 below). Within this framework, Sambrook suggests that the availability of Human Resource Development capacity in the form of facilitation skills, learning expertise and the capacity to develop flexible solutions to learning needs, as well as financial resources are key to the creation of a learning conducive environment, alongside management support for learning and employee willingness to engage in learning activities.

**Figure 1: Factors influencing the context and process of work related learning (Sambrook, 2005).**



Fuller and Unwin (2004) draw together the pedagogical, organizational and cultural factors pertinent to the workplace in their model of an expansive – restrictive continuum of learning environments, which is detailed in Figure 2 below.

**Figure 2: An expansive-restrictive continuum of workplace learning environments (Fuller and Unwin, 2004).**

<b>EXPANSIVE</b>	<b>RESTRICTIVE</b>
Participation in multiple communities of practice within and beyond the workplace	Restricted participation in multiple communities of practice
Primary community of practice has shared participative memory	Primary community of practice has little or no shared memory
Gradual transition to full participation	Fast transition – as rapid as possible
Access to learning fostered by cross-organizational experiences	Access to learning restricted in terms of tasks, knowledge and location
Access to a range of qualifications	Little or no access to qualifications
Structured time off-the-job for knowledge based courses and reflection	Virtually all on-the-job learning - limited opportunities for reflection
Vision of workplace learning – progression to advance career	Vision of workplace learning static for job
Organizational support for, and recognition of, learners	Lack of organizational support for and recognition of employees as learners
Workforce development a vehicle for aligning the development of individuals and the organization	Workforce development utilised to tailor individual capacity to organizational need
Workforce development fosters opportunities to extend identity through boundary crossing	Workforce development limits opportunities to extend identity – little opportunity for boundary crossing
Reification of ‘workplace curriculum’ highly developed through documents, symbols etc, and accessible to new employees	Limited reification of ‘workplace curriculum’ patchy access to aspects of practice
Widely distributed skills	Polarized distribution of skills
Knowledge and skills of the whole workforce acknowledged and valued	Knowledge and skills of key workers/groups developed and valued
Team work valued	Rigid specialist roles
Cross-boundary communication encouraged	Bounded communication
Managers as facilitators of workforce and individual development	Managers as controllers of workforce and individual development
Opportunities to learn new skills and jobs	Barriers to learning new skills/jobs
Innovation important	Innovation not important
Multidimensional view of expertise	Uni-dimensional ‘top down’ view of expertise

Many, though certainly not all the factors they identify, relate to on-the-job learning or the opportunities that employees have to engage in this. According to their analysis the creation of expansive learning environments would enable employees to participate in multiple communities of practice both within and beyond the workplace. First, they would enable employees to engage in learning by participation in cross-company activities. Second, they would emphasise gradual transition to full participation within communities of practice. Third, they would link learning with career development. Fourth, they would have an open and accessible 'workplace curriculum'. Fifth, they would support learning across the whole workforce and would have a multi-dimensional conceptualisation of expertise. Sixth, they would value teamwork. Seventh, and finally, they would regard managers as facilitators of learning and would provide opportunities for employees to learn new skills and jobs.

A restrictive environment, by contrast would limit the capacity of employees to participate in multiple communities of practice both within and beyond the workplace and their opportunities to engage in learning by participation in cross-company activities; would emphasise fast transition to full participation; would emphasise job-specific learning; would have a hidden 'workplace curriculum'; would support learning amongst selected members of the workforce and would have a uni-dimensional, top-down conceptualisation of expertise; would value rigid specialist roles; would regard managers as controllers of the workforce and would provide limited opportunities for employees to learn new skills and jobs.

Fuller and Unwin argue that expansive rather than restrictive environments are likely to foster learning at work, and, more importantly promote the integration of personal and organizational development, although they acknowledge that organizations may consciously adopt restrictive models of workforce development as a deliberate strategy of supporting models of work organization that rest on limiting the learning of some groups of employees.

Significantly, the ESRC Teaching and Learning Research project found that regulatory frameworks had both a direct and indirect influence on the expansiveness of workplace learning environments, and thus the capacity of employees to engage in learning within the workplace. The impact of statutory regulation was suggested to be a more significant influence within the public sector, since here, the government is effectively the employer. The national training targets for social care, for instance, have thus extended training provision within this sector. Because the statutory requirements relate to NVQ attainment, and NVQs are competence based qualifications, this development has served to promote on-the-job learning in particular.

Skule's (2004) influential model of conducive, learning environments relates solely to informal learning. He suggests that informal learning is more likely amongst employees that are engaged in roles that are characterised by:

- A high degree of change in terms of products or processes, technology or work organization;
- A high level of demands in terms of customer expectation, suppliers, owners and/or professional communities requiring exacting standards;

- Having access to learning resources such as advice and guidance from colleagues, access to databases, literature etc, and the time to utilise such resources;
- Some level of managerial responsibility for decision making, project management, work group management etc;
- Opportunities to engage with networks beyond the immediate working environment by, for example participating in professional forums;
- Feedback on learning through work;
- Managerial support and encouragement for learning in the workplace;
- Human resource policies that reward proficiency.

From this, Skule concludes that post-Taylorist organizations with transparent boundaries that expose more employees to the external environment, that have flatter hierarchies in which managerial responsibilities are more evenly distributed and which have high levels of employee involvement in product and process development would be most conducive to informal on-the-job learning.

According to Keep and Rainbird (2005), The Learning Organization model which rose to prominence during the late 1980s and early 1990s provides a broad strategic framework in which learning, rather than being regarded as a bolt on extra, moves centre stage, becoming the primary organizational principle upon which business strategy and competitive advantage can be developed. This model is premised upon three different stages of learning within an organization: First, individual employees learn (by way of both on-the-job and off-the-job methodologies). Second, the organization as an entity begins to develop methods in which its component parts can learn collectively. Finally, the central goal of the organization is systemic learning. According to Marquardt and Reynolds (1994), Learning Organizations display a number of characteristics. They thus:

- Create new knowledge as a central part of competitive strategy
- Capitalise on uncertainty as a source of growth
- Embrace change
- Encourage accountability at the lowest levels
- Encourage managers to act as mentors, coaches and learning facilitators
- Have a culture of feedback and disclosure
- Have a holistic systemic view of organizational systems, processes and relationships
- Have a shared, organization wide vision, purpose and values
- Have leaders who encourage risk taking and experimentation
- Have systems for sharing knowledge and using it in the business
- Are customer driven
- Are involved in the broader community
- Link employee development and organizational development
- Network within the business community
- Provided frequent opportunities for experiential learning
- Avoid bureaucracy and 'turf wars'
- Have a high trust culture
- Strive for continuous improvement
- Structure foster and reward all types of team work
- Use cross functional work teams
- View the unexpected as an opportunity to learn

The Learning Organization would, then, appear to provide a conducive environment for the application of all the on-the-job learning methodologies outlined in Section 3 (above). Yet Keep and Rainbird (2005) amongst others have questioned the extent to which this model exists in reality within the contemporary workplace, suggesting that organizations attracted to this concept are commonly aiming to achieve enhanced organizational learning rather than to adopt the model wholesale. Furthermore, they point out that “counter-balancing the language of delayering, devolved management, empowerment and stress on the problem-solving, creativity and innovation of individual workers, are the persistence of work regimes based on command and control systems, scripted interactions with customers, routinization of work tasks and often high levels of surveillance”.

Clarke (2004), whilst acknowledging the importance of identifying the types of environment that support informal learning, nevertheless questions whether measuring the capacity of organizations to support learning is a meaningful exercise, since the presence of an environment conducive to learning does not necessarily indicate that learning will be effective or valuable, or whether any learning that takes place will automatically be translated into improved employee or organizational performance.

Rainbird (2000b), moreover, suggests that whilst the workplace is highly significant as a site of learning, this is not unproblematic because the principal purpose of the workplace is the production of goods and the provision of services, and, in the private sector at least, the generation of profit, rather than learning. In a similar vein, Fuller et al (2003) are critical of the concept of the Learning Organization, suggesting that in this approach there is a strong tendency to privilege the role of learning within organizations rather than seeing it as a secondary activity which derives from the primary purpose of the business.

## Models of workplace environments conducive to on-the-job learning: summary

- A number of models of the learning conducive environment have been developed which vary in terms of the emphasis placed upon different organisational and workplace characteristics. The models do, however, embrace a number of common elements and thus provide a framework for building a workplace environment conducive to on-the-job learning.
- The models suggest that in an on-the-job learning conducive workplace:
  - Employees work in non-hierarchical teams performing multiple tasks.
  - Employees have some discretion over how they undertake work.
  - Employees are able to engage in a professional capacity with others beyond the work group, beyond the workplace and beyond the organisation.
  - Employees have opportunities to develop new skills and have ‘space’ for learning.
  - Skills and knowledge are widely distributed; are valued at all levels of the organisation; and access to skills and knowledge is not controlled.
  - Managers support and facilitate learning.

- Competence development is rewarded through more stimulating work, opportunities for career development or increased remuneration.

## 6. Conclusions and recommendations for the next stage of Learning through Work

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A review of the literature relating to on-the-job learning reveals that this can take a variety of different forms. In practice these often overlap, and because of this, a number of commentators have suggested that attempting to categorise the different on-the-job learning experiences of employees as formal, non-formal or informal may be of limited value. Yet many on-the-job learning methodologies have both formal and informal variations, and an understanding of this is therefore of use in making recommendations for the next stage of the Learning through Work project.

Very little literature specifically considers the role of on-the-job learning in relation to the development of LLNIT skills; Newton et al (2006b) being a particularly noteworthy exception here. Yet the more general literature relating to on-the-job learning clearly indicates that this has a number of key strengths that could be utilised in order to advance LLNIT learning within the low paid, low skills sector, especially as the key LLNIT needs here relate to the ability to communicate and process information (Newton et al 2006a). This is because on-the-job learning has the capacity to enable employees to develop specific, context-based skills that are relevant to their job roles, at the point in the time when such competence is required. It can also help to facilitate the transfer of learning, since this is applied *in situ*. This suggests that on-the-job learning may have a significant role to play in developing and improving LLNIT skills, where such skills are an intrinsic part, or an increasing requirement, of an employee's job role. Equally important, on-the-job learning is highly accessible, and thus facilitates widespread participation in learning activities within the workplace. It therefore has the capacity to engage members of the low-paid low-skilled workforce, who are disproportionately over-represented amongst those with LLNIT skills needs, yet are often unable, or reluctant, to participate in post-compulsory education, and frequently have fewer opportunities to undertake off-the-job learning than their more highly-paid, highly-skilled counterparts.

Yet the literature also suggests that formal off-the-job learning can compliment on-the-job learning methodologies, since this form of learning more readily promotes theoretical and conceptual understanding; critical building blocks for the development of those LLNIT skills required within low-paid, low-skilled workplaces where employees are increasingly expected to assume an enlarged job role and work across organizational and disciplinary boundaries. Many forms of on-the-job learning are also beyond managerial control, and individual employees are therefore able to exercise choice over the extent to which they engage in on-the-job learning and the types of skills they develop and apply. This suggests that the role of formal off-the-job learning in relation to LLNIT skills development should

not be overlooked, and that the most effective approach to LLNIT skills development within the low-paid, low-skilled sector would perhaps involve a combination both of on-the-job and off-the-job learning methodologies.

However, because the focus of this review has been on-the-job learning methodologies, six specific forms of on-the-job learning have been examined in order to gauge their suitability for pilot in the next stage of the Learning through Work project. All the methodologies that were assessed have both strengths and weaknesses, and most are more appropriate to some contexts than others. Four methodologies, the transmission model, mentoring/coaching, guided learning and job rotation were considered to have some potential for application within the low-paid, low-skilled workplace. But of these, guided learning would seem to offer the greatest scope for developing LLNIT skills amongst employees engaged within the low-paid, low-skilled sector. This is because this methodology is widely applicable, and can thus accommodate the highly heterogeneous nature of the low paid, low-skilled workplace. It also enables learners to progress at their own pace; an important consideration given that employees engaged in the low-paid, low-skilled sector commonly have little experience of post-compulsory education and training. We therefore recommend that guided learning is piloted within low-skilled, low-paid workplaces during the next stage of the Learning through Work project. Yet because our review has revealed that there are both formal and informal variants of guided learning, an initial task is clearly to define more precisely the form that this methodology would take in the pilots.

Earlier sections of this review highlighted the difficulties associated with identifying and observing non-formal and informal learning, difficulties which in turn make non-formal and informal learning problematic to assess and evaluate. We therefore recommend that guided learning in its formal guise, that is *direct guidance*, is piloted during the next stage of the Learning through Work project.

What appears to be largely missing in the literature, however, is any attempt to evaluate the outcomes of on-the-job learning, and different on-the-job learning methodologies, and this is clearly an area that needs some thought in advance of the pilots.

One approach might be to utilise direct guided learning in order to enable low paid, low-skilled employees achieve a number of pre-determined, specific LLNIT learning objectives, which would directly improve their performance within the workplace and therefore that of their organisations also. Given the heterogeneous nature both of the low-paid, low-skilled sector, and of the roles undertaken by low-paid, low skilled employees within the sector, the LLNIT learning objectives would most appropriately be determined within each individual workplace participating within the pilots, at the level of the work team itself, and would reflect the LLNIT skills that were specifically required by low-paid, low-skilled employees within the team to most effectively undertake their role. In order to promote the most positive learning outcomes, the perceptions of both line managers and employees in relation to the specific nature and level of the LLNIT skills to be developed through the pilots would be need to be taken into consideration, as Newton et al (2006b) have already suggested.

Once the LLNIT learning objectives had been determined, the effectiveness of direct guided learning as an on-the-job learning methodology could be assessed by monitoring the progress of low-paid, low-skilled employees towards the achievement of these objectives. Progress could be measured against a baseline assessment of employees' existing LLNIT skills conducted prior to the introduction of direct guided learning.

The literature relating to on-the-job learning suggests that workplaces can be more or less conducive to learning, with the structure and culture of organizations, the way work is organised and jobs are designed, the style and attitudes of managers towards learning, performance management frameworks and reward systems, and the activity of trade unions with respect to skill formation and training all exerting a significant influence over the capacity of employees to engage in on-the-job learning. The pilots of direct guided learning would therefore need to be framed by an awareness of the specific environmental factors impacting upon the ability of employees to undertake on-the-job learning within each workplace. This is especially the case since such factors might influence attitudes towards the Learning through Work project amongst those low-paid low-skilled employees involved in the pilots and thus the learning outcomes that could be observed.

In the medium term as Newton et al (2006b) correctly point out, activities designed to convince employers operating within the low-paid, low skilled sector of the benefits of increasing the LLNIT skills of employees may be needed. This is likely to be especially the case beyond the organisations participating in Learning through Work. Such activities could initially focus on raising awareness of the potential of on-the-job learning for developing skills within the LLNIT cluster that impact positively upon employee and thus organisational performance.

In the longer term, however, activities may be needed to promote the adoption of operational and human resource management practices designed to encourage learning through work. Given that learning conducive workplace environments are more likely to emerge in organizations whose competitive strategy is based on the high performance, high skills model, activities designed to encourage employers operating in the low-paid, low-skilled sector to move towards this model, or perhaps significantly recognize the benefits of such an approach, may need to be considered. This would clearly be something of a challenge, however. More significant, as a point of departure, would be to ensure that organizations looking to develop learning conducive working environments recognize the importance of developing discretionary behaviour amongst employees and construct the necessarily cultural supports and workplace practices needed to support this.

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